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Robert E. Cole

Economy and Culture:
The Case of U.S.-Japan Economic Relations

Randall S. Jones

The U.S.-Japan Economic Problem

June E. Osborn

The AIDS Issue—Incidence, Transmission, and Prevention:
A Summary of the Basic Scientific Evidence

F. Thomas Juster

The Distribution of Wealth in the U.S. Economy:
Part 1

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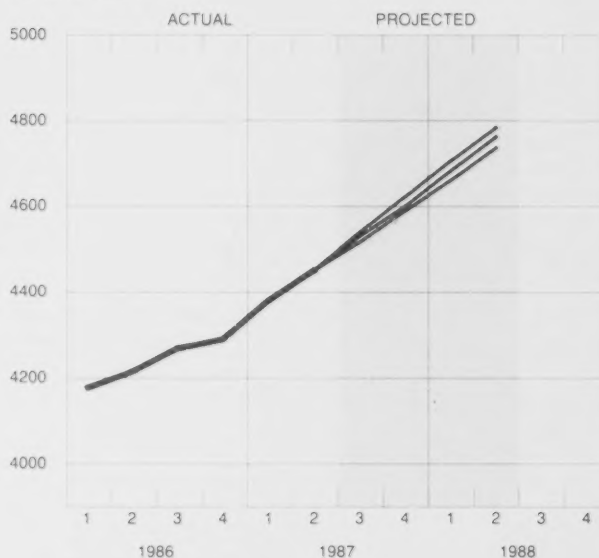
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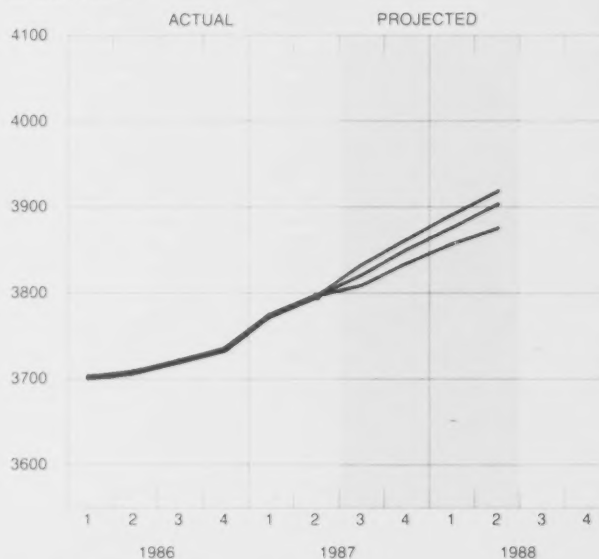
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Economy and Culture: The Case of U.S.-Japan Economic Relations

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This paper concerns the social and cultural aspects of economic relations between the United States and Japan. What led me to this particular topic was a speech by Lester Thurow on the state of U.S.-Japan economic relations and my subsequent discussion with him of various aspects of the situation. In his remarks, he argued that what needed to be done was quite clear but that the will to act was lacking on both sides. That led me to think about what is it that we actually mean when we say "the will to act is lacking." Might not that lack of will involve social and cultural conditions? Before answering that question, however, I need to make clear some assumptions that underlie my perspective on the current crisis in U.S.-Japan economic relations.

Assumptions about the Problem

First, both countries, by pursuing divergent fiscal policies, are responsible for the rapid buildup of trade and current-account surpluses for Japan and deficits for the U.S. It follows then that policies to correct the situation necessarily would involve both countries. Yet, politicians and commentators in both countries are all too adept at finger-pointing as they blame the other country's political and industrial leadership for the new crisis. If, during the first half of the 1980s, Japan had followed a more expansionary policy and the U.S. had followed a less expansionary one, the problems we are facing today would be far smaller. In other words, it is the divergence of U.S. and Japanese policies that have contributed greatly to the current state of affairs. This in turn suggests that there are ample opportunities for both countries to take actions now that would mitigate the problem.

Second, framing the current crisis in terms of trade barriers and linking it tightly to trade imbalances is simply incorrect. The worsening current account deficit being experienced by the U.S. cannot be attributed to increased trade barriers on the part of the Japanese. While the Japanese may have been slow about reducing these barriers, they were certainly dismantling more old ones than erecting new ones during the decade of the 1980s. Conversely, we cannot expect a greater effort in reducing these barriers to make a major contribution toward eliminating the trade imbalance. Although U.S. politicians in particular find it easy to attack the crisis in terms of trade barriers and to seek solutions in that area, they are bound to be disappointed. Trade barriers are a perfectly legitimate area of concern for affected industries and government policymakers. But there appears to be a wide consensus among economists of many different persuasions that steps taken to reduce such barriers will have only modest impact on trade imbalances. A major implication of this conclusion for my thesis is that we must look for the social and cultural conditions that underlie both the macroeconomic problems associated with the American budget deficit and

Japan's current-account surplus and those which underlie the issue of trade barriers.

Given these assumptions, what should be done now to tackle the problems? While one may debate the precise way to proceed, economists with a variety of viewpoints seem to agree on the overall outlines. We need macroeconomic policy coordination. The Americans must get the federal budget under control, trimming the growth in both defense expenditures and entitlement programs while raising taxes (a strong case can be made for an import tax on oil). Japan and West Germany must cut taxes and foster more growth. Martin Feldstein argues that, in the absence of such a package, we will see either broad-scale protectionism or the collapse of the dollar within the next few years. Either or both of these outcomes will push us into a worldwide recession. Yet policy coordination, as reflected in a willingness to alter a country's policies of taxing and spending, has yet to be demonstrated. So far, the only response to unwanted changes in exchange rates has been a willingness to alter monetary policies, mainly by adjusting interest rates.

Is Better Communication the Answer?

But if all this is so clear to the experts, why aren't the respective parties rushing to take action? Lack of communication is one common response. At the recent seventh Shimoda conference, the periodic Japan-U.S. forum, both Japanese and American participants are quoted as saying that the current trade tensions mostly stem from poor communication and misunderstanding. In a separate interview, Clyde Prestowitz, a former high-ranking Commerce Department official, argues that a communications gap arises from a failure to agree even on a mutually acceptable definition of the word dumping. Prestowitz further argues that each country lacks an understanding of the motivations behind the other side's actions, presumably at both the governmental level and the firm level. The Japanese are said not to have much understanding of why the Americans are so upset. Similarly, the Americans, according to Nathaniel Thayer of Johns Hopkins University, are oblivious to what Japan actually considers its greatest problem, yen appreciation.

Implicit in these perspectives is the belief that cultural differences obscure our respective views. Prestowitz argues that if we could give the authority to make decisions in U.S.-Japan negotiations to Americans who really understand Japan and Japanese who really understand America, we could get rid of this communications gap. It follows that once we got rid of the gap we could settle our problems because we would know who was causing what, what constraints on decisions were operating, and so forth. The notion that communication lies at the heart of our bilateral problems has adherents on both sides of the Pacific, but it seems to have a particularly strong hold in Japan.

There are serious problems with this perspective. The reasoning is often fuzzy. The definition of dumping, to use the earlier example, is not necessarily a cultural issue between Japan and the U.S. It is a matter that has plagued GATT since its inception. Second, these arguments on communication typically lack empirical support. Once people get past their communications problems, they may find either a basis for common interest or divergent interest. There is no reason *a priori* to assume that just on the other side of the communications door we will assuredly find the gateway to common interest. To be sure, in the very broad sense that Japan and the U.S. are increasingly interdependent economies with a strong national security relationship, there is common interest in not doing anything to destroy the basic relationship. But this does not guarantee agreement on what policies best serve the mutual interest, let alone on whose interest is best served by this or that particular policy.

Thus, the Americans are no less understanding of the problems created by yen appreciation in Japan than the Japanese were of the problems created by dollar appreciation earlier in the decade. Just as the Americans found out how many American firms could compete at 250 yen to the dollar, we are now finding out how many Japanese firms can compete at 140 yen to the dollar. This has nothing to do with understanding; it has to do with whose interests are being served! We sometimes choose "not to understand" our trading partners' problems when our interests are being served by continuing current arrangements. (Incidentally, it may have served Japan's short-term interest to have a weak yen in the early 1980s; but in view of the strong world-wide reaction to their penetration of various national markets, it may not have served Japan's long-term interests.)

It is true that mutual understanding may eliminate focusing on peripheral issues and help the parties concentrate on the core issues. But the fact of the matter is that it is sometimes "better" to focus on peripheral issues that can distract the parties from intractable core areas of dispute. I am not suggesting that the core areas are always intractable, only that increased communication is not the panacea it is being held up to be.

One other observation about communication is in order. I think our communications problems internally in each nation often surpass the cross-national communications problems. That is, both American and Japanese economists have a great deal of difficulty agreeing among themselves, they have difficulty in communicating with their respective political leaders, and the politicians in both countries have a great deal of difficulty in communicating with their constituencies. We can see this clearly in the difficulty that is being experienced in convincing the Americans to cut their budget deficit and getting the Japanese to stimulate their economy and restructure their industry. These are after all complicated and sensitive issues, and it is easier for American politicians, for example, to convince the voters that they are doing something about the trade problem and lost jobs by voting for a protectionist trade bill than by taking away an entitlement program. Similarly, Prime Minister Nakasone has been much better at promising Americans that he would implement the Maekawa report for restructuring the Japanese economy toward internal growth industries than he has been at convincing the Japanese public and the

bureaucracy of the urgent need for action on these programs.

"Politics" as the Problem

All this brings us to a second response as to why our politicians are not rushing to enact the solutions that we say are so obvious: *Politics* is at the root of the failure to coordinate macroeconomic policy. When Lester Thurow made his analysis of the situation, he implied that it was a lack of political will that stood in the way of action. What is "political will"? Some say that we have moved toward economic internationalization and interdependency, but that our system of politics lags behind. What does it mean to say that "politics lags behind"? Others say that it is the constraints on the domestic political process that limit our ability to coordinate economic action. What does it mean to say that the "domestic political process" is the major sticking point? It is not politics *per se* that these people are talking about. What often underlies references to politics are explanations of an economic, sociological, or psychological nature. My point here is not that politics is as overused an explanation as poor communication, but that political factors must be understood as intervening variables, with their constituent elements being economic interest combined with social and cultural factors.

When we talk about a lack of political will to take coordinated international action, we imply first that there is some sacrifice of short-term and even long-term domestic goals associated with some political action. Sacrifices involve costs; the notion of sacrifice implies that there are value preferences among sections of the electorate that aren't being met. And these value preferences are rooted in social, cultural, and economic conditions. The U.S. Congress has trouble cutting back on entitlements because over time constituents have come to see these entitlements as social rights. It is difficult for congressional representatives regardless of political coloration to vote for slow-downs in defense budgets because of powerful constituencies (including some unions) that have been built up around the country in support of these allocations. In addition, a powerful anti-Soviet ideology animates the current American political leadership, again making it difficult to cut military budgets.

President Reagan has trouble raising taxes because he and his closest advisors are prisoners of a market ideology that has powerful cultural roots in American history. In no other industrial nation is there such a celebration of the market; surely this is not accidental. By contrast, while the Japanese have effectively used the market mechanism to promote economic growth, they have a quite pragmatic view of the role of markets. They are unburdened by powerful, principled views on this matter. Based on historical experiences, the Japanese have not viewed government intervention as inevitably producing ineffective decisions, nor have they viewed the market as a panacea. That very pragmatism has evolved as part of their cultural heritage.

Similarly, when we talk about needed changes in macroeconomic policy in the Japanese case, we find that one of the factors to be reckoned with is Japan's high saving rate. There are a variety of factors responsible for that high saving rate, and economic incentives are nontrivial factors. Yet, there can be little doubt that the historical drive to catch up with the West over the last 100 years, com-

bined with some ascetic traditions, have instilled a strong anti-consumption mentality among the Japanese populace. The Japanese still think of themselves as inhabiting a poor country. These are factors to be reckoned with in trying to raise consumption; policymakers have trouble even accepting the need for such a change, so strongly imbedded is this mentality. Even when the Japanese have an orgy of consumption, as during a traditional gift-giving season, it is carefully channeled and socially regulated; it is obligatory consumption constrained in ways that remind everyone "this is the exception, not the norm."

The reason that these constraints on decision making have such potential for disrupting needed international policy coordination has to do with who votes in whose elections. Japanese don't vote in U.S. elections and vice-versa. To be sure, lobbyists for foreign countries provide a weak proxy for such direct participation, but nationalism ensures that such lobbyists not overstep "proper" boundaries. Social and cultural constraints arising from each country's unique historical experience limit that international policy coordination seen by domestic constituencies as hostile to their interests. In each country, legislators and government bureaucrats know how to horse-trade around conflicting domestic issues to arrive at policies minimally acceptable to their constituents. But we have not developed much in the way of mechanisms that allow such compromise solutions at the international level.

Rice, Automobiles, and Culture

It is the Japanese who are more inclined to recognize the importance of culture in explaining their behavior. In a world dominated (as they see it) by Western culture, they have often been tempted to interpret their circumstances in terms of their presumed cultural uniqueness. Thus, Japanese often cite cultural differences as a barrier to Western imports: for example, "We can't let Western rice be imported because rice cultivation is part of our national heritage." The continuing strength and recent resurgence of the *Nihonjinron* literature (a literature focused on identifying and analyzing the shared set of core characteristics that make up Japanese society) underlies this perspective. Carried to its logical extreme, *Nihonjinron* literature requires a fabrication of history that constitutes the basis of nationalism.

It is precisely because culture has been used in the past for such purposes that many social scientists are inclined to dismiss culture as an explanatory variable unless they are explicitly studying nationalism. Since it can't easily be isolated and measured, economists are extremely uneasy in the presence of the culture variable; they tend to see culture as reflecting irrational or nonrational behavior. Along with most behavioral scientists, they tend to treat culture as a residual "black box"—to be invoked as an explanation only after all other explanations have been exhausted. More significant is their fundamental error in believing that if they have shown behavior to be compatible with economic rationality, they have therefore disqualified culture as an explanation. Such a view probably comes from the norms of parsimony, which require that we look for the simplest explanation (simplest in the sense of selecting the fewest possible variables). In an overdetermined model where we do have more than one explanation, we naturally tend to favor those in our own discipline. There are indeed economists who speak of culture as a consumption

good or activity, but there are relatively few who have gone beyond that statement to explore its implications and systematically incorporate culture into their models.

If culture is the sum total of historical experiences as reflected in current value preferences—the definition being used here—there is no reason why it shouldn't sometimes be quite consistent with economic rationality. We need to rescue the concept of culture from the nationalists and use it as a social science tool to understand the different value preferences that affect behavior. Social science use of the concept must not be limited to anthropologists' researching primitive societies.

If the Japanese have overemphasized culture as an explanation, Americans have tended to underestimate it. Perhaps in a multi-ethnic immigrant nation, it was easier to evolve a sense of national identity based on social change and progress. In this context, tradition and culture came to be seen as barriers to national success. We sometimes act as if we think only the Japanese have culture—an empirical impossibility given the definition of culture being used here. Even the Japanese have been inclined to dismiss culture as an explanation for American behavior. Given Prime Minister Nakasone's recent comments on race in America, the culture of pluralism seems quite beyond his ability to grasp. The Japanese have been all too adept at understanding the cultural aspects of 19th century Western imperialism, but they have been less understanding of the concept of American culture. Upon learning that the Japanese were defending their restriction of foreign rice by claiming that rice-growing was part of their culture, Senator Levin of Michigan was quoted as saying, "Well, then, automobiles are part of our culture." Now I suspect many Japanese would dismiss such an equivalence; they would ask, "How can one compare 70 years of history with 2,000 years of rice cultivation in Japan—where the very word for cooked rice is the word for meal?"

If one examines the world of automobile workers in Michigan, however, one does indeed find a rich heritage and a distinctive world view that has been shaped by their employment. This includes the employees' very standard of living, their sense of work, their dreams and aspirations, the tradition of union democracy, and hard-fought-for rights. Indeed, the very notion that the development of the American automobile industry made available the car for the mass market is at the core of the American way of life. These are not trivial matters. One craftsman I recently interviewed described how everything he had been taught as to what constituted a good union man over the last 50 years had been turned upside down when he was ordered to do the work of another craftsman. Now we may say that this is an inevitable consequence of international competition and that it is more efficient to have multi-skilled workers. But it should certainly come as no surprise that when people find their lives and values turned upside down, they will resort to political action to try to protect themselves.

One more word about rice is in order. Culture can often be used as a smokescreen to avoid opening markets. The Japanese say that their rice tastes different from American and other varieties (and they make the same argument for meat). Who is going to be the arbiter of what constitutes domestic culture? If we are not dealing with a smokescreen then the simple answer is to let the consumer decide how much more he or she is willing to pay for the luxury of eating domestic rice. In other words, if there

really is a cultural element here, then we ought to be willing to eliminate any formal trade barriers, since culture will be more effective in restricting imports in any case. As I just indicated, though, I think culture is often used as a smokescreen by government bureaucrats concerned far more with protecting domestic constituencies than with preserving culture. How would the Japanese have felt if the American government in the 1970s had said, "Americans have an innate cultural commitment to large cars; therefore we are going to impose high tariffs on small cars and thereby preserve American culture"? It is not my intent to trivialize the rice issue. Self-sufficiency in food has a powerful hold in any nation. But the strength of the emotion around the food sufficiency argument seems directly correlated with the importance of maintaining the Liberal Democratic Party's political base in rural constituencies.

It is clear that one of the more significant barriers to improving U.S. economic performance lies in the quality of its educational system. Yet, this social infrastructure has been allowed to decay without strong action being taken. Why is this the case? Again, the economic rationale is clear, but action has not been forthcoming. Why aren't the hours of schooling being lengthened to accommodate the increased information needs of a modern industrial society? Why is nothing being done to replace the loss of competent female teachers as this once captive high-quality labor seeks new opportunities in the private sector? In short, why isn't the investment being made in better salaries to attract more competent teachers? And why do we tolerate a level of illiteracy that is more befitting a developing nation than a world leader? And how is it that racism continues to stain our educational system, depriving the nation of much-needed talent? My reason for listing all these problems is to highlight the fact that the policy issues listed here are rooted in social and cultural factors. Thus, when we talk about coordinating economic policy, we need to have an understanding of the distinctive social, cultural, and political factors that are operative. These factors reflect and provide the value preferences serving as constraints on our policy decisions.

It is not my intention to suggest that culture is an irremovable obstacle to economic policy. Such a statement would be absurd, for, as already stated, culture can provide strong support for rational economic policy. When culture is an obstacle, however, it is important that not every change be viewed as a threat to the entire cultural system. Not long ago, a high-level U.S. official was quoted as saying that Japan's closed market would not be solved unless changes were made in the very cultural fabric of Japanese society. The Japanese were properly quite upset at the remark. It seemed to attack the entire way of life of the Japanese with the explicit suggestion that it would have to change to fit the norms of Western culture. While I can quite sympathize with the Japanese reaction, I also can understand what underlay that comment.

Overcoming "Import Substitution Mentality"

In my own research on market barriers to penetration of the Japanese auto market by foreign firms, I have concluded that we are faced today with a cultural legacy of an "import substitution mentality." That is, throughout the Japanese struggle to catch up with Western industrialization, foreign advisors and products were tolerated only as

long as it took to replace them with indigenous personnel and products. If a Western country had a product or process technology desired by the Japanese, reverse engineering, intelligence from the West, and the start-up of indigenous production were the preferred alternatives to imports (even if local production was more costly in the short run). If all else failed, joint ventures and licensing were short-term strategies adopted as necessary expedients to acquire and digest foreign technology.

These kinds of sentiments and motivations come through powerfully as one reads the company histories of Japanese auto manufacturers and suppliers. A powerful nationalism drove Japanese manufacturers to be as self-sufficient as possible. Toyota Motor Co. with its reluctance to even accept foreign licensing of technology most typified this sentiment in its extreme form. We see many aspects of this view in the current debate in Japan about whether they should build their next generation of fighter planes on their own or co-produce them with U.S. manufacturers. Local firms who stand to benefit, such as Mitsubishi Heavy Industries, have argued strongly that the time is past when co-production was needed.

Throughout a good deal of the history of the Japanese auto industry, these sentiments were implicitly and often explicitly encouraged by government policy. When official controls ended in connection with Japan's assuming full status as a member of GATT, the import substitution mentality was so strongly imbued among middle-level bureaucrats in the public and private sectors that it continued to hold sway.

It will take time for a new generation of corporate decision makers to learn to look abroad for suppliers and for middle-level government bureaucrats not to instinctively sabotage efforts to make access to the Japanese market easier for foreign producers. Clearly, proper economic incentives can facilitate the process. What we have here is a cultural legacy that was economically rational in terms of Japanese efforts to industrialize rapidly. Under the changed circumstances that flow from Japan's rise to the role of economic leader and defender of the free-trade order, the import substitution mentality has become a liability. So, that cultural legacy has to change, and it *can* change without tearing apart the entire cultural fabric of Japan. Contrary to the nationalist interpretation of culture, it is not an organic system—an integrated whole—such that any challenge to it and change of it will automatically bring about its demise. In fact, historical evidence indicates that culture is remarkably elastic in responding to challenges.

In that connection there is one area where the cultural legacy of the import substitution mentality potentially has an important continuing role to play. Part of that legacy involved Japanese manufacturers' developing extremely close relationships with their suppliers and extending extensive technological, managerial, and financial support to them as they tried to bring the suppliers up to worldwide competitive standards. This reservoir of skills and experiences can now be put to good use in minimizing emerging trade tensions. As Japanese manufacturers increasingly locate facilities in the United States, their initial tendency has been to minimize local content and, when necessary, to bring their Japanese suppliers with them. Unfortunately, this has the added effect of further aggravating trade tensions through further displacement of local industry. If they instead used their accumulated expertise in upgrading

Japanese suppliers as a foundation for work with American suppliers, they would do much to minimize trade tensions. At the same time they would contribute to a technology transfer for rejuvenating American industry in the same way that they themselves benefitted in earlier years from the transfer of American technology to Japan.

We have seen here that cultural and social conditions act on both the efforts to resolve the macroeconomic coordination of policy and the specific trade issues that face the two countries. Thus, comprehending the root basis of

U.S.-Japan economic relations requires an understanding not only of economic factors but also of social, political, and cultural ones. There is no question that much of the current friction in U.S.-Japan trade relations is a function of differential economic performance. But the reasons for this differential performance and the extent to which we make successful adjustments to it are firmly rooted in political, social, and cultural factors. Lack of communication is often used as a substitute for meaningful understanding of these relationships.

The U.S.-Japan Economic Problem

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The deterioration in the trade balance has had serious consequences for important sectors of the U.S. economy. The diversion of domestic demand to imported goods has been the major cause of sluggish growth since mid-1984. The economy grew only 2.9 percent in real terms in 1986, down from 3.0 percent the year before. Real growth in the first half of 1987 was somewhat improved (3.4 percent at annual rate) but still not robust. Many economists believe that an improvement in the trade balance is a key to the continuation of the current economic expansion.

As the leading trader and investor, the United States has greatly benefitted from the liberalization of the world trading system. But the size of the balance-of-payments deficit has eroded support for free trade. A May 1987 poll, for example, reported that 44 percent of Americans believe that trade with Japan is bad for this country.¹ Doubts about the benefits of free trade were reflected in the 250 import-restricting bills introduced in the 99th Congress, which also passed the Jenkins textile-apparel bill, the first blatantly protectionist piece of legislation to pass both houses since the Smoot-Hawley Tariff of 1930. The August 1986 vote to override the presidential veto of the bill failed by only 8 votes.

The Reagan administration's commitment to free trade has frayed badly under congressional pressure. In 1986 Washington asked Japan and three other countries to limit their exports of machine tools; concluded an agreement with Japan that has raised the prices of semiconductors; signed new, restrictive textile-apparel agreements with Korea, Hong Kong, and Taiwan; and upped the ante in its agricultural export subsidy battle with the European Community.

In Japan the escalating trade surplus has created an embarrassment of riches and friction with other countries. The \$85.8 billion current account surplus recorded in 1986 was equivalent to 4.6 percent of Japan's gross national product, the highest figure recorded by an industrial country in the postwar era. Japan's current account

surplus in the first half of this year was \$43.5 billion, 22 percent higher than its surplus in the first half of 1986.

Japan's large capital outflows have made it the world's largest creditor nation, with \$180.4 billion in net external assets at the end of 1986. If current trends continue, Japan will become the largest creditor nation in history by 1990, with an unprecedented \$400 billion in net external assets and substantial net investment income adding to its current account surplus. In contrast, the United States is now the world's largest debtor country, with \$263.6 billion in net foreign debt at the end of last year.

Causes of the Trade Imbalance

The deterioration in the U.S. trade position has focused attention on the bilateral imbalance with Japan, which accounted for more than one-third of the total deficit in 1986. Japan, as a symbol of the international trade problems of U.S. manufacturers, has become a target of protectionist legislation and a major issue in the campaigns of several presidential candidates. Trade friction between the two countries culminated in President Reagan's March 1987 decision to impose punitive tariffs on up to \$300 million worth of Japanese electronic goods, the first time in the postwar era that Washington has retaliated against Japan.

Congress continues to push for stronger trade measures. Legislation to force the administration to retaliate against countries that run large trade surpluses with the United States was included in the omnibus trade bills passed by the House and the Senate earlier this year. Senate Finance Committee chairman Lloyd Bentsen (D, Texas) said earlier this year that "we have almost a crisis in trade and this is the year Congress will try to turn it around with trade legislation."²

Political leaders have generally failed to acknowledge that the trade deficit is a macroeconomic problem that cannot be turned around by legislation to revise trade laws.

¹The poll was taken by CBS News and *The New York Times*.

²*The Wall Street Journal*, January 23, 1987.

Certainly, the rise in the U.S. imbalance with Japan from \$18.1 billion in 1981 to \$58.6 billion in 1986 (and to an annual rate of \$59.4 billion in the first half of this year) cannot be blamed on Japanese trading practices. Tokyo's eight market-opening packages since 1981 have contributed to a 23 percent rise in U.S. exports to Japan during the past five years in contrast to a 7 percent drop in total U.S. exports. While all countries, including Japan, should be encouraged to lower trade barriers, this should not be viewed as a solution to the trade deficit. According to one estimate, the removal of all Japanese import restrictions would increase U.S. exports by \$5 billion to \$8 billion, making only a small dent in the bilateral trade imbalance.³

The U.S.-Japan trade imbalance instead reflects diverging trends in saving and investment in the two countries. A nation's current account balance equals the difference between domestic saving and investment. When domestic investment and the government budget deficit do not absorb private saving, as in Japan, the remainder is invested overseas. The overseas investment must be matched by a corresponding current account surplus. A current account deficit occurs when domestic investment and the government deficit exceed private saving. The shortage of domestic saving is offset by an inflow of capital from abroad that matches the current account deficit. Changes in interest rates and currency values equilibrate the international trade and investment flows.

In 1986 gross private investment in the United States was \$686.4 billion, and the cumulative government budget deficit (including federal, state, and local government units) was \$143.1 billion. Adding these figures together, the total demand for funds was \$829.5 billion. Meanwhile, gross private saving (by individuals and corporations) totaled \$680.5 billion. Private sector saving thus fell short of the demand for funds by \$149 billion. The required inflow of foreign capital approximates (allowing for statistical discrepancy) the U.S. current account deficit of \$141.5 billion last year.

During the past five years, Tokyo and Washington have followed divergent fiscal paths. In contrast to the \$200 billion federal budget deficits run by the United States, Japan's budget deficit has been declining since 1981. With private investment as a share of gross national product smaller than in the rapid growth era, the demand for funds has been insufficient to absorb Japan's high level of private saving. As a result, Japan has invested a portion of its savings abroad, resulting in a matching current account surplus.

An analysis of the changes in the bilateral trade balances of Japan and the United States with other countries since 1981 (the last year both countries had current account surpluses) suggests that the root of the problem lies primarily in this country. If Japan were the source of the unprecedented international imbalances, one would expect to see an across-the-board improvement in its trade position. Instead, the United States and OPEC accounted for nearly four-fifths of the increase in its trade surplus during the past five years (see Table 1). Trends in its trade balance with the rest of the world, meanwhile, have been mixed.

³C. Fred Bergsten and William R. Cline, *The United States-Japan Economic Problem* (Washington, D.C.: Institute for International Economics), January 1987, p. 116.

Table 1. Japan's Trade Balance, 1981 and 1986
(in billions of dollars, exports f.o.b., imports c.i.f.)

Source	1981 Trade Balance	1986 Trade Balance	Increase in Surplus	Share of Increase in Japan's Surplus
United States	\$13.3	\$51.4	\$38.1	51.5%
OPEC*	-32.1	-12.4	19.7	26.6
European Community	10.3	16.7	6.3	8.6
Newly Industri- alized Countries†	12.3	17.5	5.2	7.1
China	-0.2	4.2	4.4	5.9
Other Developed Countries	-1.3	0.8	2.1	2.9
Communist Bloc‡	2.0	1.6	-0.4	-0.5
Latin America	3.8	3.3	-0.5	-0.7
Other Developing Countries	0.5	-0.5	-1.0	-1.3
Total	8.7	82.7	74.0	100.0

*Excludes Venezuela and Ecuador.

†Includes Taiwan, Korea, Hong Kong, and Singapore.

‡Excludes China.

Source: Japanese Ministry of Finance.

The U.S. trade balance, in contrast, deteriorated with every trading region except OPEC between 1981 and 1986 (see Table 2). While Japan accounted for the largest share of the \$116.5 billion increase in the U.S. trade deficit, the European Community, Latin America, and the newly industrialized countries of Asia also played important roles.

Table 2. U.S. Trade Balance, 1981 and 1986
(in billions of dollars, exports f.a.s., imports c.i.f.)

Source	1981 Trade Balance	1986 Trade Balance	Increase in Deficit	Share of Increase in U.S. Deficit
Japan	\$-18.1	\$-58.6	\$40.5	34.8%
European Community	8.7	-26.4	35.1	30.1
Newly Industri- alized Countries*	-7.0	-30.8	23.8	20.4
Latin America	1.3	-13.0	14.3	12.3
Other Developed Countries	5.3	-5.1	10.4	8.9
Communist Bloc†	4.2	-2.3	6.5	5.6
Canada	-7.3	-13.3	6.0	5.1
Other Developing Countries	2.9	0.8	2.1	1.9
OPEC‡	-29.7	-7.4	-22.3	-19.1
Total	-39.6	-156.1	116.5	100.0

*Includes Taiwan, Korea, Hong Kong, and Singapore.

†Excludes China.

‡Excludes Venezuela and Ecuador.

Source: U.S. Department of Commerce.

This suggests that America's trade situation is a result of domestic policies, namely the large budget deficits, a problem that cannot be blamed on the Japanese. Instead, it reflects the priorities of the administration and the Congress.

Political leaders have responded to the large deficits with various proposals intended to improve U.S. competitiveness. When measured in terms of national currency, however, U.S. labor costs in the 1980s have actually risen less than in other countries, reflecting higher productivity growth and modest wage increases (see Chart 1). This improvement in U.S. competitiveness, though, was overwhelmed by the appreciation of the dollar. The most important solution to the competitiveness problem, therefore, is to reduce the domestic saving-investment imbalance and the U.S. reliance on foreign capital by cutting the government budget deficit.

The U.S. Trade Deficit

The U.S. trade deficit has failed to show much improvement in nominal terms despite the decline in the dollar since February 1985. During the first half of 1987, the deficit totaled \$81.9 billion, compared to \$78.6 billion during the same period in 1986. The record \$15.7 billion June deficit pushed the value of the dollar down and made many observers pessimistic about the prospects for a substantial decline in the deficit. Most economists expect the 1987 deficit to match last year's \$156.1 billion.⁴

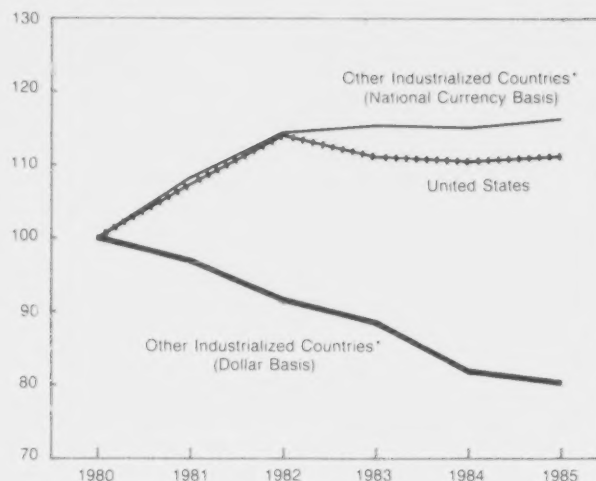
The lack of progress in narrowing the trade gap has led some observers to conclude that the realignment of exchange rates cannot adequately lower the deficit for several reasons. One is that U.S. exports are limited by sluggish growth in many of this country's important trading partners, particularly Japan and West Germany, which both recorded real growth of only 2.5 percent in 1986. In addition, the debt problems of developing countries continue to limit U.S. exports.

On the import side, it is also clear that foreign producers will not give up market share in this country without a struggle. After several years of substantial earnings, they are willing to cut costs and sacrifice profits rather than lose market share by raising prices by the full amount of the currency changes. Japanese exporters, for example, passed on in the form of price increases only a bit more than half of the yen's rise from fall 1985 to summer 1987, substantially less than the two-thirds passed on in 1978 when the yen appreciated by a smaller amount. Japanese cost-cutting efforts have been aided by less expensive industrial inputs, particularly oil, while record or near-record corporate profits in 1984-85 left firms in good shape to fight for market share.

Another line of argument holds that structural changes in the economy have lessened the effect of currency changes on the trade deficit. Outsourcing by U.S. manufacturers, for example, has made many firms dependent on Japanese imports. According to a study by the Japan External Trade Organization, about 30 percent of Japan's shipments to this country in 1984 were closely linked to U.S. manufacturing activities. Moreover, many of the products now imported, such as compact disc players and

CHART 1. U.S. and Foreign Unit Labor Costs, 1980-85

Index, 1980 = 100



*Trade-weighted average of Belgium, Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Norway, Sweden, and the United Kingdom.

Source: Council of Economic Advisers, *Economic Report of the President*, 1987.

video cassette recorders, are not made here in any quantity. In addition, the dollar's decline has been moderated by its failure to depreciate significantly relative to the currencies of many major developing countries. In contrast to the sharp drop against the yen and the German mark, the dollar has remained nearly constant relative to the currencies of some important trading partners, such as Canada and Hong Kong.

Japan's Trade Surplus

The 70 percent appreciation of the yen during the past two years should lower Japanese exports by making them more expensive. Thus far, however, the revaluation has had a modest impact, reducing Japan's export volume only 1.4 percent in 1986. This reflects the reluctance of Japanese firms to pass on the yen's appreciation in export prices (despite the risk of anti-dumping charges) and the surging demand for Japanese goods in South Korea and Taiwan. Moreover, the small changes in the volume of trade have thus far been overwhelmed by the shift in the terms of trade (the J-curve effect). In dollar terms, exports rose 18.1 percent in 1986, while imports fell 4.5 percent, pushing Japan's trade surplus to a record \$92.8 billion. Frustration with the rise in the surplus led to the European Community's attempt to single out Japan for criticism at the General Agreement on Tariffs and Trade meeting in Uruguay last fall.

Although import volume did jump 13.3 percent last year, the impact of exchange rate changes is limited by the low ratio of manufactured imports in total foreign purchases. The demand for raw material imports is much less sensitive to price changes than is the demand for manufactured goods.⁵ While manufactured goods accounted for a

⁴A survey of 20 American economists in *Nihon Keizai Shimbun*, August 24, 1987, reported an average forecast of \$156.5 billion for the U.S. 1987 trade deficit.

⁵Sumitomo Bank, *Economic Survey*, May 1986, p. 1.

record 44 percent of Japanese imports in 1986, that figure is still low compared to 60 to 75 percent for the United States, West Germany, Great Britain, and France. With exports declining, it is unlikely that lower prices will boost imports for raw materials.

The sharp appreciation of the yen should eventually lower Japan's trade surplus. As profit margins are squeezed, exporters will be forced to raise their prices. In addition, currency changes have encouraged Japanese firms to manufacture overseas to remain competitive, and this will help reduce exports. The U.S. Labor Department estimates that the average manufacturing wage in Japan last year was more than six times higher than that in Taiwan, Hong Kong, and South Korea. Japanese foreign direct investment increased 82.7 percent in FY 1986 to \$22.3 billion, and this trend is likely to continue.

Conclusion

The large U.S. external deficit is made possible by the willingness of foreign investors to increase their net lending and investment in the United States. The huge imbalance cannot continue indefinitely. Once foreign investors refuse to continue making large net investments in this country, the U.S. current account, which includes merchandise trade, services (including investment income), and transfers, will have to be balanced. Moreover, the United States will have to run a trade surplus to service its foreign debt, which could reach as high as \$600 billion by the end of the decade. Interest payments on a debt of that size will absorb as much as 2 percent annually of U.S. gross national product.

The U.S. trade balance does show signs of improvement. In constant dollar terms, the deficit has fallen about

\$40 billion at an annual rate from its peak in the third quarter of 1986. But lowering the deficit and eliminating it are two different matters. The decline in the dollar thus far is not sufficient to produce the needed improvement in the trade balance of the United States, which has lost two major sources of export growth. Latin America, which absorbed 18.7 percent of U.S. exports in 1981, accounted for only 13 percent in the first quarter of 1987, reflecting that region's foreign debt problems. Secondly, the success of the green revolution and European farm export subsidies helped reduce U.S. agricultural exports from \$43.8 billion in 1981 to \$26.6 billion last year.

Although Japan's trade surplus apparently peaked in the first half of 1987, the country will remain a surplus nation and an exporter of capital for years to come. While some observers have urged Japan to curb its high saving rate to bring its international accounts back into balance, it is unwise to encourage a rich country to consume more when developing nations are short of capital. World Bank president Barber Conable has called Japan's trade surplus a "world asset" that should be mobilized for development aid.⁶

Almost 90 percent of Japan's long-term capital outflow last year was invested in OECD countries. Although this has benefited the United States by preventing a rise in interest rates, it is important that Tokyo follow through on its plan to recycle \$20 billion to indebted developing countries. In addition to promoting economic development, it would also boost demand for U.S. products. An additional \$20 billion of lending to Latin America should, for example, raise U.S. exports by about \$8 billion.

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⁶*Nihon Keizai Shimbun*, August 3, 1986.

The AIDS Issue—Incidence, Transmission, and Prevention: A Summary of the Basic Scientific Evidence

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Introduction

By most reckonings, the potential cost in lives, human suffering, and dollars makes the AIDS epidemic the most serious public health issue that has arisen in the United States and in the world over the last several decades. Much has been written on the subject, and much more will be written over the next several years. But we know enough now about the origins, incidence, transmission mechanisms, and prevention possibilities of AIDS to be able to at least lay out the upper and lower bounds of the problem, and to speculate intelligently about the likely success of various preventive mechanisms. In this article, the first of two, the basic scientific knowledge that we now

have about AIDS is examined and summarized. In the next issue, part two will examine the public policy issues in greater detail.

The illness popularly known as AIDS is a communicable viral infection transmitted from human to human by sexual contact, by transmission of blood, or by birth. In the scientific community, the virus that causes AIDS has been termed, by international agreement, the human immunodeficiency virus, or HIV.

Worldwide, about ten million people appear to be infected already, and many more tens of millions are potentially at risk of becoming infected. The disease AIDS has thus far been uniformly fatal, and while it is not yet known what percentage of HIV-infected people will become ill,

the estimate is steadily rising (to 50 percent or above) with increasing experience. The cost—both in resources and in shattered lives of the victims and their families—is staggering even if the less pessimistic assumptions prove to be correct. And finally, large elements of the world population, although not themselves at risk, are fearful that an infectious illness with typically fatal consequences will be transmitted to them or their children.

To understand the dimensions of the problem and to create a base of knowledge from which sensible and effective public policies can be formulated, several unique characteristics of the AIDS epidemic need to be understood. First, we need to understand the basic scientific facts about the AIDS virus and how it is transmitted. Second, we need to understand the quantitative dimensions of the problem, in particular the looming future problem inherent in the very large size of the infected population, despite the modest number of persons who are presently ill with AIDS. Third, we need to understand how AIDS differs from other communicable diseases, since appropriate public policies cannot be formulated unless there is general public understanding of the issue. And fourth, we need to understand the public health alternatives—the prospects for development of an effective vaccine, the prospects for development of drugs that can offer effective treatment to AIDS patients, the pros and cons of mandatory and voluntary screening, the issues involved in proposals to quarantine AIDS victims, etc.

This article takes up the set of problems relating to science—how AIDS originated, how it differs from other infectious diseases, the incidence of infected and clinically ill populations and how they can be expected to change over time, and the transmission mechanisms by which people become infected and eventually ill.

What Is AIDS?

All of us are familiar with communicable infectious diseases, either personally or from historical memory. Some of these diseases are commonplace and not lethal—the common cold, measles, and mild forms of influenza; some are currently rare in the developed world, although historically common and sometimes lethal—smallpox, poliomyelitis, yellow fever, and malaria; some are far removed from current consciousness but clearly have had major influences on history—the Black Death.

These communicable diseases have some commonalities and some marked differences. Some are transmitted by human contact (the common cold), some are transmitted by bacteria and travel by air (strep throat and scarlet fever), and some are transmitted by insects (malaria and yellow fever). Most bacterial infections can now be cured by antibiotics if diagnosed promptly. Many acute viral infections such as measles, mumps, and polio can now be prevented by vaccines, but antiviral drugs are still in their infancy (compared to antibacterial pharmaceuticals), and very few are currently available for even the most straightforward viral infections—witness the lack of an effective treatment for the common cold.

The basic facts about AIDS are remarkably well known, given the recency with which the disease was identified by scientists. First, AIDS is caused by a virus called HIV in current scientific terminology. HIV is a member of a particular group of viruses called retroviruses; actually, it can be categorized even further, to the subgroup of retroviruses

called lentiviruses, of which there are a number of well-studied examples in other species (goats, sheep, and horses).

Retroviruses have been given their name from an acronym denoting their possession of a reverse transcriptase enzyme which has properties different from any other viral enzyme. Without going into detail, the enzyme copies the genetic information of the virus from its usual RNA form into DNA, which is qualitatively so similar to the chromosomal material of the human cell that it can be durably inserted. The functional result of this chemical process is that the virus becomes an integral part of that cell's genetic information for the life of the cell. It can be reactivated later to form complete virus particles and infect other cells; but the important point is that, once the integration occurs, it cannot be reversed or excised.

Because of this ability to integrate their genes with those of the cells they invade, retroviruses present much different problems than do most other viruses: since they may not provoke much of a vigorous immune response in order to achieve durable infection, and are sequestered within the cell nucleus, it is not surprising that standard vaccine approaches are proving disappointing. They also have a capacity to vary their genes more than most viruses—even more than influenza or the common cold virus—and this adds to their relative invincibility.

All of these features sum to the fact that a true cure for HIV infection is very remote indeed. Even chemotherapy is difficult because it requires interference with normal cellular mechanisms—to use a metaphor, it is difficult to murder the virus without seriously wounding its host. It is thus not surprising that AZT, the first antiviral drug found to be somewhat effective in AIDS patients, is attended by serious toxic side effects.

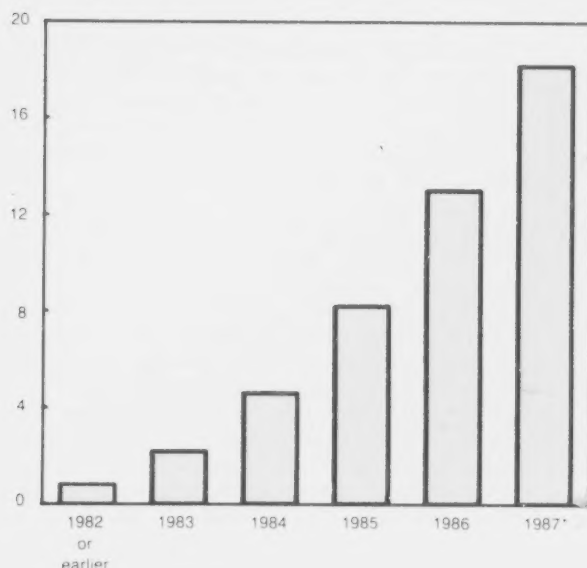
Given the remote prospects for rapid identification of a treatment, a cure, or a widely available vaccine, the picture would be grim indeed were it not for the merciful fact that HIV is sharply limited in its modes of spread: as noted earlier, only sexual, blood-borne, or perinatal (birth-associated) transmission occurs. Even in the closest family setting, with sharing of utensils, razors, toilets and the like over many months, persons caring for AIDS patients have failed to become infected unless by sexual contact. Much has been made over the few (less than 10) health care workers who seem to have become infected in the line of duty, but even they represent extreme exceptions. With an estimated 1.5 million Americans silently infected, the epidemic continues to conform to the patterns of high risk behavior: since the screening of the blood supply reduced transfusion and hemophiliac risk to extraordinarily low levels, sexual transmission, sharing of intravenous drug apparatus, or birth to an infected mother explain virtually all of the cases of HIV infection available for study.

World Incidence

The distribution of the AIDS virus is at present quite uneven, with sub-Saharan Africa and the United States the points of greatest incidence. To date over 42,000 cases of the disease have been diagnosed in the U.S.; yearly totals since 1981 are shown in Chart 1. Nearly 140 countries have officially reported one or more cases of AIDS, and it is likely that virtually all countries have at least some representation of HIV within their borders.

CHART 1. Newly-Diagnosed Cases of AIDS in the U.S., 1982-87

Thousands of Cases



*Editor's estimate based on actual cases reported 1/1/87-9/21/87.

Source: Centers for Disease Control

The western hemisphere probably had HIV introduced in the early 1970s, and the first cases of AIDS were recognized simultaneously in the United States and in Brazil (in 1981). The Caribbean has had a particularly severe incidence; while Haiti is an especially visible locus, other Caribbean countries have as high or higher rates per capita. Australia and Western Europe seem to have followed the U.S. pattern, lagging by 1-3 years. By and large, the epidemic pattern in the United States is similar to that found in Australia and Western Europe but quite different from that found in sub-Saharan Africa and the Caribbean. In the former, HIV infection is dominantly male, with homosexual and bisexual men and intravenous drug users constituting the vast majority of cases. In Africa and, to a lesser extent, the Caribbean, male and female cases have occurred in virtually equal numbers, and heterosexual intercourse plays an unarguably important role in the transmission process.

At first this divergent distribution of cases raised the possibility that a difference in the nature of the virus itself might be the dominant explanation. But with increasing experience in the United States and elsewhere, it appears that the differences in infection pattern relate largely to accidents of history. In the United States, the initial involvement of a somewhat insular subset of the gay male community, characterized by multiple, same-sex sexual partners, amplified the observed incidence of male-to-male transmission and masked heterosexual transmission. In Africa, the pattern of multiple heterosexual partners and patronization of female prostitutes by relatively affluent men resulted in a nearly 1:1 male:female infection ratio, and an initial concentration of AIDS cases in urban men and female prostitutes.

However, both these pictures are changing. Indeed, the long incubation period between infection and illness makes it worthwhile to think of current AIDS cases as representing a "snapshot" that is at least 5 years out of date. Thus, there are now populations in Africa where as many as 30 percent of pregnant women are infected. In the United States, the male:female ratio of AIDS cases is slowly shifting: perhaps the most ominous glimpse of the future comes from recent data obtained from the U.S. military in the screening of volunteers, which indicates a significant heterosexual transmission. And in areas like New York City, where the virus has had time to diffuse into the young adult and adolescent age groups, the male:female ratio is almost equal.

Our ability to assess the dimensions of the impending epidemic is significantly influenced by the evidence relating the incidence of infection to the incidence of illness. HIV infection is established through the introduction of infected cells or bodily fluid into the bloodstream. At the time of the comprehensive Institute of Medicine/National Academy of Sciences report (1986), it was estimated that the likelihood of ultimate progression to the AIDS illness from HIV infection was about 25 percent. But since then, the ongoing San Francisco study of a cohort of gay men tested positive for HIV since 1978 has yielded the alarming observation that the rate of development of the AIDS illness actually increases after 5 years. This underscores the salient point: we do not yet know even what the median incubation period is, since the epidemic has only been recognized for 6 years. Thus, a firm prognosis regarding the ultimate fate of individuals infected with HIV cannot be made with any assurance. If extrapolation from animal models is relevant, the news is gloomy indeed: in those cases, very long incubation periods are followed by 100 percent transmission of infection into the disease.

Moreover, the evidence on the ultimate outcome for those whose HIV infection has resulted in an overt case of AIDS illness is disheartening. An AIDS diagnosis currently carries what is perceived to be a death sentence, and indeed the mortality rate is more than 85 percent for persons in whom AIDS was diagnosed more than 3 years ago. It is widely assumed that few, if any, will survive the florid form of the disease.

How Did AIDS Originate?

AIDS is a pathological consequence of infection with HIV. But how did the virus originally get into the human species? The answers are only speculative, and are likely to remain so. The chief weapon available to explore such issues is called "sero-archaeology"—the search among stored serum samples for antibodies which might constitute evidence that a given virus had infected people before the time of that serum collection. Using that tool, researchers in central Africa have found one serum sample from 1959 which has antibodies to HIV, and none before that time. Even so, infection seems to have been very rare in Africa until the early 1970s, and it appears that HIV is really very new to the human species, at least as an epidemic virus.

A less direct line of evidence concerning the origin of viruses utilizes modern-day ability to determine the molecular sequences of individual viruses and makes comparisons among groups. When a substantial homology (nearly or exactly the same sequence of nucleic acid com-

ponents) is found, one can infer a degree of evolutionary relatedness. Using this approach it has been found that there is a distant relatedness between HIV and other known lentiviruses, a somewhat closer relatedness to some newly discovered retroviruses of certain subhuman primate species, but no "smoking gun" relationship which would allow one to assert that the evolutionary origin of HIV has been clearly ascertained.

Since such evidence is inferential anyway, it is likely that we will never know with complete assurance where HIV came from. However, other human pathogens have emerged in a similar way during recorded history (measles, for instance, is very closely related to certain viruses of dogs and cattle and by historical analysis seems to have adapted to humans rather suddenly in about 500 B.C.), so an operational answer to the question of where HIV came from is possible.

It probably adapted to mankind from another species' viral flora; this could have happened very recently or, alternatively, it could have tried and "failed" many times prior to the mid-twentieth century, when cultural, social and migrational conditions optimized its previously restrictive modes of spread. It is of interest, in this regard, that the distribution of HIV antibody and AIDS in the African nations now undergoing intense epidemics is almost exclusively urban, centering on socially mobile men with a very high frequency of sexual partners and on female prostitutes whom they patronize. Spread into rural areas has only just begun to occur, if it has happened at all (one of many powerful arguments against insect-borne transmission of HIV).

While we cannot say why HIV evolved into the human species, therefore, a circumstantial case can be developed. At the very least, this eases the concerns of those who worry about a truly "alien" virus introduction—the virus of AIDS is chemically and biologically similar to many known viruses and conforms to the biologists' "rules" in all respects. Thus, while it presents daunting problems, there is a reassuring familiarity about the known particulars.

Transmission Mechanisms

By now, we know quite a lot about the transmission mechanisms for HIV. The most effective means of transmission from an infected individual to a susceptible host are sex, blood, and birth. Extensive epidemiological data suggest that these are the *only* means of spreading the virus: exposure by air, direct contact with bodily fluids, excreta, insects, and even extended close, nonsexual contact have failed to establish infection. The evidence on this point bears emphasis, in view of the intense, diffuse public alarm over so-called casual contact.

With respect to blood, it is now evident that transfusion of infected blood is a highly efficient transmission mechanism. In the United States, the routine screening of all donated blood and plasma has been instituted to reduce the risk of virus infection by infusion to extraordinarily low levels, although it bears repeating that voluntary self-exclusion of persons with high risk behaviors remains a crucial element in policy to maximize the safety of the blood supply.

Since infusion of blood and blood products is so effective at transmitting HIV, the obvious question to ask is why needlestick injuries and splash exposures of health care personnel rarely have resulted in transmission of the

virus. The answer may in part relate to the incidence of infected cells and blood: between only 1 in 10,000 and 1 in 100,000 white cells are demonstrably infected in the blood of persons carrying the AIDS virus, meaning that large blood volumes would be needed to be sure that the virus was even present.

Some mystery surrounds the exact mechanism by which sharing of intravenous drug apparatus sometimes results in infection rates that are extraordinarily high: in some areas, such as New York/New Jersey, well over 60 percent of intravenous drug users are infected, for example. In other areas, much lower rates of infection are observed. Detroit and San Francisco, for example, have infection rates of 10 percent or greater in the drug-addict population. But in some communities the drug-addict population seems to have remained relatively free of infection: in Los Angeles and New Orleans, for example, the virus has been present in the drug-using community for 2 or more years and yet the incidence of infection remains at or below 2 percent. Clearly, there are facets of drug-using behavior that can accelerate spread and others that minimize spread. One fairly obvious variance is in the frequency with which needles are shared *outside* of defined social groups (e.g. with strangers), but much more needs to be learned about these behaviors.

The details concerning the links between drug use and the spread of AIDS are quite central to assessment of the future of the AIDS epidemic in the United States. The focused concern and voluntary cooperation found in the U.S. gay community is almost entirely lacking in the drug-using population. Moreover, AIDS tends to take more virulent forms in the drug-using population, and these victims are likely to require expensive inpatient care due to unsettled or nonexistent home situations. It is already clear that intravenous drug use—either directly or through sexual partnership with others—counts for between 17 and 25 percent of the total U.S. cases, as much as 80 percent of the female cases, and nearly 90 percent of the children with AIDS who acquired the virus at birth. It is estimated that three-quarters of a million people in the United States are intravenous heroin addicts, and the estimated number of those who experiment with intravenous drugs at least monthly is much greater. It is evident that the sexual partners of i.v. drug users are at serious risk; and, of course, so are their offspring. Because of the legal constraints on possession of drug apparatus, it is very likely that not only the large number of intravenous heroin addicts is at high risk, but the even larger number of frequent users is at a greatly disproportionate risk of becoming infected.

Sexual transmission is clearly the dominant mode of spread in the United States. Two different points bear emphasis: first, the virus *can* be spread from man to man, man to woman, and woman to man during penetrative sexual intercourse. There seems to be a substantial gradient in the efficiency of various pairings and sexual practices, and a growing body of data will almost certainly clarify the nature of these differences.

Among homosexuals, sexual practice makes a big difference in the likelihood of transmission. Anal receptive intercourse is clearly the most efficient means of sexual spread. Even in these cases, infection is not guaranteed: there are instances of men who have been the receptive partners in unprotected anal intercourse with infected partners over many exposures without (yet) becoming in-

fected. There are very recent findings of possible genetic differences in susceptibility to virus infection, which may explain some of these puzzles if they hold up in larger studies. Other forms of male homosexual intercourse, while they can also spread the virus, do so with much reduced efficiency.

The evidence on heterosexual intercourse, while ambiguous earlier, is now becoming clarified. It has always been clear that men can infect women: the efficiency per sexual act is unknown and is a subject in urgent need of clarification. Early longitudinal studies of steady sexual partners, one of whom was initially infected, show a range of infection of the second partner from 10 percent to 70 percent over a sustained interval, even without the protection yielded by the use of condoms. Thus it is already clear that infection is not inevitable: indeed, one reasonable estimate places the likelihood of male-to-female transmission of HIV per sexual act at about 1 percent.

Early in the epidemic, it was unclear whether women could infect men. Recent studies and experience have substantiated the assertion that such transmission can occur. The evidence from Africa (where drug use appears not to be a contaminating factor) suggests that female prostitutes are the main source of female-to-male transmission of HIV. But we know less about the incidence of such transmission than about other forms of sexual transmission.

Transmission by birth (and through blood transfusions in infancy) presents truly difficult and tragic problems of AIDS transmission. At first there was a real question as to whether there were genuine cases of AIDS in babies, since a number of genetic and other pediatric syndromes share some features with the new disease and since children tend to have relatively atypical illnesses. Testing for the presence of positive antibodies of AIDS has clarified the issue. It is now evident that children become infected by two major routes: either they are born to infected mothers or they have received multiple blood transfusions.

The latter group represents a sad trade-off for progress, for babies with AIDS are often the survivors of extreme prematurity, who often weigh a pound or less at birth. Only a decade or so ago, such infants had virtually no chance for survival, and the fact that they now live into childhood and beyond is testimony to the advances made in neonatal intensive care. The application of these advances, however, requires close monitoring of infants, including frequent blood tests; and the total blood volume of such babies is so minuscule that frequent replacement transfusions are necessary. Thus, such children may receive donations from a dozen or more individuals over the weeks that they fight their way from one pound to five, and prior to the advent of blood screening capability in 1985, these multiple transfusions served to put them at risk of blood-transmitted AIDS. Such cases no longer occur, but they have been replaced by those resulting from the dissemination of virus through drug use.

The Future Path of the Epidemic

The future of the U.S. epidemic was carefully assessed at a conference held by the U.S. Public Health Service in June 1986, and reassessed by the Institute of Medicine/National Academy of Sciences study panel in 1987. It was predicted that in the upcoming 5 years the number of U.S. AIDS cases would increase at least tenfold. Since that

estimate was based on an assessment that about 25 percent of infected cases would eventually become actual AIDS cases, and on an assumption that the incubation period was 4-5 years, the predicted increase may be quite low: recent experience suggests that both figures are serious underestimates.

It was further predicted that female AIDS would increase at a relatively greater rate than male, due to a combination of intravenous drug use and sexual partnership with intravenous drug users or bisexual men. The disproportionate number of minorities among AIDS cases in the United States, which is already twice what would be expected given the size of the relevant populations, was also predicted to increase and to become even more evident in female and, therefore, in pediatric AIDS, the vast majority of the latter being expected to occur by birth of children to infected mothers. By 1991, for example, it was predicted that over 90 percent of children with AIDS would be either Black or Hispanic.

These U.S. predictions for 1991 could turn out to be conservative but are unlikely to be excessive. Because of the long incubation period, most of the individuals who will get AIDS between now and 1991 are already infected and are incubating their disease. However, what happens thereafter could be modified by efforts at preventive education and by specific preventive measures such as the use of condoms and spermicide.

The rest of the industrialized world has followed the same pattern of epidemic increase as the United States and is likely to continue, at least for a while. The African situation is much more dire. Here, it is not certain what weight should be given to various modes of spread, but it is clear (even though the first cases were recognized only at about the same time as in the United States) that between 5 and 10 million people in Africa are now infected and that by 1991 that number will increase tenfold. The cataclysmic potential of AIDS in areas where 10 percent or more of the young adults in urban areas and 30 percent of pregnant women are infected is self-evident, and serious discussions are ongoing concerning possible destabilization in such populations and jurisdictions.

Several general comments can be made about these estimates of future infection rates and AIDS cases. First, they are based on less than 6 years' experience with a new human pathogen. This lack of experience is grimly illustrated by the steadily increasing estimate of the length of incubation periods and the equally steady increase in the estimates of the rate at which the presence of the AIDS virus will yield actual AIDS cases.

One crucial piece of information about the potential virulence of the epidemic is the degree to which the virus spreads among heterosexual men and women in the United States. In part, this depends on how long infected individuals remain infectious. While the idea that infectiousness might wane during chronic infection, thus limiting the potential for spread through heterosexual contact, is a relatively optimistic one, it is not well supported by experience. Indeed, HIV is regularly recoverable from the blood of asymptomatic HIV-positive individuals for many years. The prognostications sketched out here are chosen because they project most closely to actual experience to date. While that procedure is not guaranteed to provide valid projections, it seems the only rational basis on which to formulate public policy.

Prevention and Public Policy

Given that we have a very large pool of HIV-infected members of the population, and a much smaller number of actual AIDS cases, what can be done to both limit the damage from existing actual and potential cases and to prevent the future spread of both infection and actual AIDS illness?

The only two factors that can reduce the potential damage from the AIDS epidemic are discoveries on the biomedical side (development of an effective vaccine, for example) and developments on the side of changing people's behavior. Both can be influenced by public policy, although the first is in some sense more tractable than the second in that it does not depend on the responses of individual members of the population but only on progress within the scientific community.

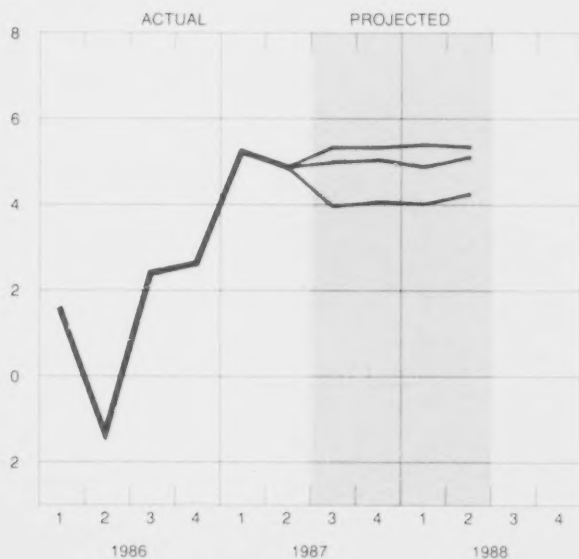
In the next issue of this publication, the public policy issues will be discussed at greater length. In particular, we discuss the possibilities for biological/medical innovations, the possibilities for educational interventions to modify behavior, and the kinds of policies that are needed to promote gains along either or both of these paths. We also

discuss the issue of whether casual contact is a potential transmitter of the AIDS virus and examine the public policy issues involved in various proposals for screening, quarantining infected groups, etc.

Just to preview that analysis, there is every reason to be skeptical that a technological fix can solve the problem—that biological/medical developments can intervene in time to prevent either the translation of HIV-infected cases into actual AIDS illness or the spread of AIDS infection and subsequent illness through the sex, blood, or birth channels discussed above. If that is so, the only feasible means of limiting the damage is by way of changing the behavior of populations at risk or potentially at risk, difficult though that may be and counter to our national preference for technological fixes rather than the slower-moving and less dramatic behavioral change route. And finally, the evidence clearly suggests that AIDS cannot be transmitted by casual contact. Even though the natural instincts of people generally are to avoid such contact because AIDS is an illness that, at the moment, is always terminal, those instincts must be modified by public education so that we are not driven to draconian measures on irrational grounds.

CONSUMER PRICE INDEX

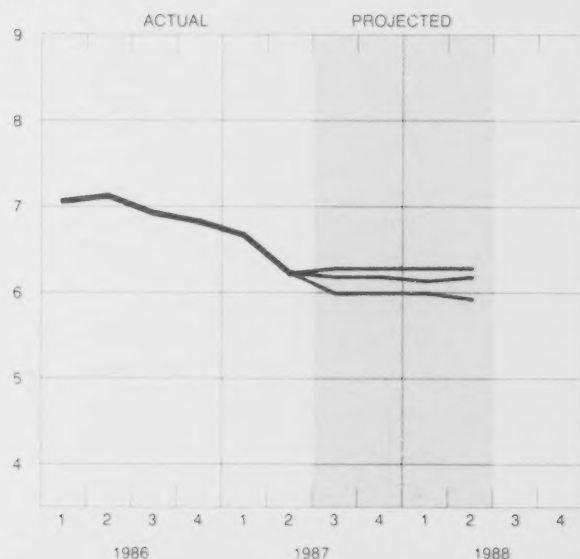
Percent Change
at Annual Rate



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

UNEMPLOYMENT RATE

Percent



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

The Distribution of Wealth in the U.S. Economy: Part 1

F. Thomas Juster
Research Scientist, Survey Research Center and
Professor of Economics
The University of Michigan

Introduction

There has been a great deal of interest among academic economists in patterns of wealth holdings and in wealth accumulation processes in the U.S. Wealth affects consumer spending behavior, in its real capital formation aspect it influences productivity and economic growth, and in its distribution among the population it affects retirement living standards, the transmission of economic status from generation to generation, and the distribution of economic (and probably political) power. In this article, and in a second article in the next issue of this publication, we examine some of the recent data on wealth and wealth distribution. This article focuses primarily on the distribution of total wealth among households in the U.S., and on the composition of that wealth among various types of assets. We also look at the incidence of wealth holdings of various types among the U.S. population, and take an initial look at the distribution of different types of wealth holdings by income class. In the next issue, wealth distribution and wealth concentration issues will be examined in more detail.

Basic Data

The basic data in this paper come from a survey of net worth conducted by the Survey Research Center in 1983. It differs from the usual wealth survey data in that there was substantial representation of households with very high incomes. Some procedure of that sort is essential if survey data are to capture the full range of the wealth distribution, since wealth holdings are known to be highly skewed. Thus a normal probability sample of the population would contain very few such households, those few are likely to be atypical of wealthy households, and wealth estimates consequently will tend to be seriously underestimated. For the 1983 survey, a sample of households with very high income volunteered to participate in the study, and the analysis below results from merging data from a probability sample of the population with supplementary data from a small sample of households with very high incomes.

For purposes of this discussion, wealth or net worth is defined as the sum of financial asset holdings less the sum of liabilities. Financial asset holdings include liquid assets (checking accounts, savings accounts, CDs, Treasury bills, etc.), other financial assets (common stock, corporate and traded government bonds, IRA and Keogh accounts, investment trusts, etc.), equity in tangible assets (cars and owner-occupied homes, including seasonal homes), business assets (the value of ownership shares in unincorporated businesses and farms and the value of shares in closely held corporations), investments in real property other than owned homes, loan assets, and the cash surrender value of life insurance. Liabilities include mortgages on owned homes, installment debt on cars and

other durables, brokers' loans, credit card debt, medical loans, line-of-credit loans, etc. For most categories of assets, liabilities are netted in the estimate: that is, the value of shares of an owned business or farm is intended to represent the gross value less the indebtedness, hence the net value. The same is true for owned homes, real estate investment property, and automobiles. Hence the debt figures are exclusive of debts which are basically subtracted from other asset categories, and are therefore much less than total liabilities.

It should be noted that these estimates of net worth do not include certain types of assets that clearly have value to households. For example, rights in pension funds, whether contributory or not, are not included; the value of households' rights to Social Security benefits—a form of public pension funds—are not included; assets that take the form of the skills embodied in people (represented by investments in schooling or other formal or informal training) are not included in the estimate; and so on.

Overall Distribution

Chart 1 shows the distribution of total net worth among the U.S. population in 1983. At one extreme, almost 4 percent of the population has over half a million dollars of

CHART 1. Distribution of Total Net Worth among the U.S. Population, 1983

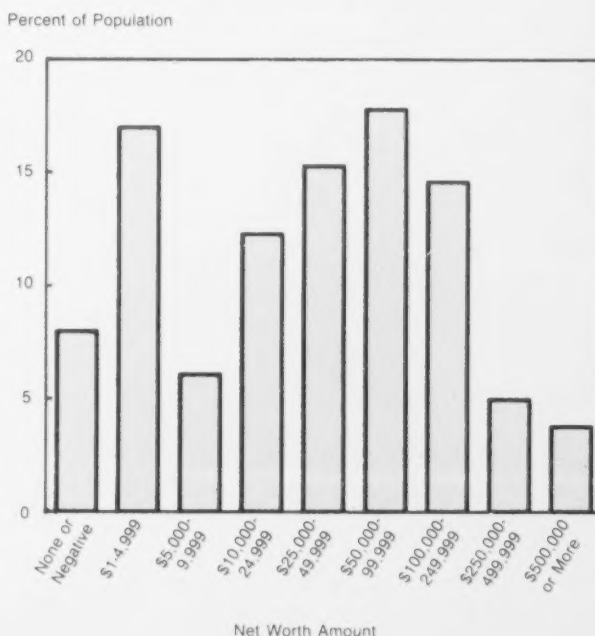


TABLE 1. Amounts of Four Types of Assets Held by U.S. Households (Percentage Distribution)

Type of Asset	Amount of Asset Held								
	None or Negative	\$1–4,999	\$5,000–9,999	\$10,000–24,999	\$25,000–49,999	\$50,000–99,999	\$100,000–249,999	\$250,000–499,999	\$500,000 or more
Liquid Assets	11.9	51.7	10.0	12.8	6.7	4.4	1.9	0.4	0.1
Housing Equity	36.3	3.4	4.0	12.3	19.5	17.3	6.1	0.9	0.2
Common Stock	79.7	10.1	3.0	2.7	1.6	1.3	0.8	0.5	0.4
Real Estate Investment Equity (non-housing)	79.1	2.3	2.8	4.3	4.6	3.6	2.0	0.8	0.5

net worth, as defined above, while nearly 9 percent has a quarter of a million dollars or more. At the other extreme, 8 percent have either zero or negative net worth (negative meaning that their liabilities exceed their assets). More generally, close to half the population has net worth under \$25,000, while a little more than half has net worth in excess of that amount. As noted below, most of the assets of households with relatively low net worth consists of housing equity and small amounts of liquid assets.

Incidence

Table 1 shows the proportion of the U.S. population who owns various types and amounts of assets. We have singled out four types of assets which display different patterns—liquid assets, equity in owned housing, holdings of common stock, and ownership of “investment” real estate assets (not including owned homes).

For liquid assets, about 10 percent of the population reports no holdings at all, while a very large proportion (over 50 percent) reports holding some such assets but less than \$5,000 worth. The proportion of households holding relatively large amounts of liquid assets tends to decline steadily in size classes over \$25,000, with only 1/10 of 1 percent of the population having liquid asset holdings of over half a million dollars.

Housing equity, the asset most widely held in the population after liquid assets, is owned by about two-thirds of U.S. households. Holdings of very small amounts are relatively rare, as are holdings of very large amounts. In most size categories, housing assets are the most commonly owned type of asset.

The pattern of holdings of common stock and real estate investment property is interesting and may be surprising to some. Only about 20 percent of the population own either common stock or real estate investment property. But while the proportion of households with varying amounts of common stock holdings declines monotonically from the lowest size category to the highest, the proportion of households holding real estate investment assets is smaller than common stock holdings for small amounts, but exceeds the proportion owning common stock in all the size categories above \$10,000. Thus large holdings of real estate investment property among U.S. households is more common than large holdings of common stock. To some extent, that impression may be misleading because these data do not count in common stock holdings the amounts of corporate equities held by pension funds,

which of course are assets technically owned by households. The total amount of assets (mainly stocks and bonds) held in that form is somewhat larger than the total holdings of common stock that are individually owned. Still, it may be surprising that real property investments are so pervasive among U.S. households.

Assets and Liabilities Totals

Table 2 shows the average size of holdings of various types of assets and liabilities, arrayed according to the size of net worth categories. This table tells us something about the portfolio mix of American consumers in different wealth size groups. The table shows average wealth holdings of equity in tangible assets (houses and cars); average holdings of financial assets divided into liquid assets, common stock and other financial assets; equity in business assets including both unincorporated businesses and farms, closely held corporate assets, and real estate investment assets; and miscellaneous assets along with liabilities not already netted out of the figures. Total net worth is also shown.

From Table 2 it is clear that, in the small and moderate size net worth categories, equity in tangible assets (houses and cars) plus liquid asset holdings comprise the lion's share of consumers' portfolios. Even in the net worth category between \$100,000 and \$250,000, almost two-thirds of total assets are either tangible asset equity or liquid assets. In the smaller size categories, the sum of these two asset types ranges from 80 percent to over 100 percent.

In contrast, the larger portfolios—those over a quarter of a million dollars—are dominated by business assets. In the largest net worth size category, business assets are more than half the total, while in the next-to-largest category, they are more than a third of the total. Conventional financial assets—stocks and bonds—are virtually invisible in financial portfolios for households with less than \$100,000 of total assets, comprise about 10 percent of total assets for households with between \$100,000 and \$500,000 in total net worth, and comprise less than a third of total net worth for consumers with more than half a million of total assets.

The data on total assets and liabilities at the bottom of Table 2 bear out this general pattern. Of total net worth of about ten and a half trillion dollars, about a third is represented by equity in tangible assets, about 40 percent by equity in business assets, and about 30 percent by financial assets. Of the financial assets, about a third in turn is

TABLE 2. Average Values of Financial Assets and Liabilities among U.S. Households in Various Net Worth Categories (1983 dollars)

Net Worth Category	Asset or Liability Category									
	Equity in Tangible Assets		Financial Assets				Equity in Business Assets	Other Assets	Other Debts	Total Net Worth
	Vehicles	Houses	Liquid Assets	Common Stock	Other	Total				
0 or negative	\$407	\$142	\$467	\$26	\$18	\$510	\$43	\$89	\$3,172	\$-1,979
\$1-4,999	1,282	308	601	177	276	1,054	52	244	1,027	1,915
\$5,000-9,999	2,401	2,440	1,800	123	127	2,050	412	1,094	1,199	7,180
\$10,000-24,999	2,643	8,939	3,010	364	423	3,797	1,214	1,849	1,675	16,768
\$25,000-49,999	3,232	23,277	4,266	737	868	5,871	3,301	2,743	1,508	36,917
\$50,000-99,999	4,257	43,292	9,584	1,505	1,306	12,395	8,929	4,235	2,045	71,062
\$100,000-249,999	5,928	64,759	25,632	6,596	4,906	37,134	35,951	9,086	2,500	150,367
\$250,000-499,999	7,759	94,627	40,556	20,972	28,557	90,085	140,389	12,693	2,475	343,078
\$500,000 or more	11,617	204,865	93,059	267,365	241,325	601,749	885,390	38,762	24,233	1,718,109
ALL	3,675	34,602	12,303	12,587	11,737	36,627	48,038	4,956	2,711	125,188
Total Assets or Liabilities (billions)	\$308	\$2,904	\$1,032	\$1,056	\$984	\$3,072	\$4,031	\$425	\$227	\$10,505

liquid assets, while the other two-thirds (dominantly held by households in the highest net worth category) is represented by stocks and bonds along with other financial assets (investment trusts, IRAs and Keogh plans, etc.).

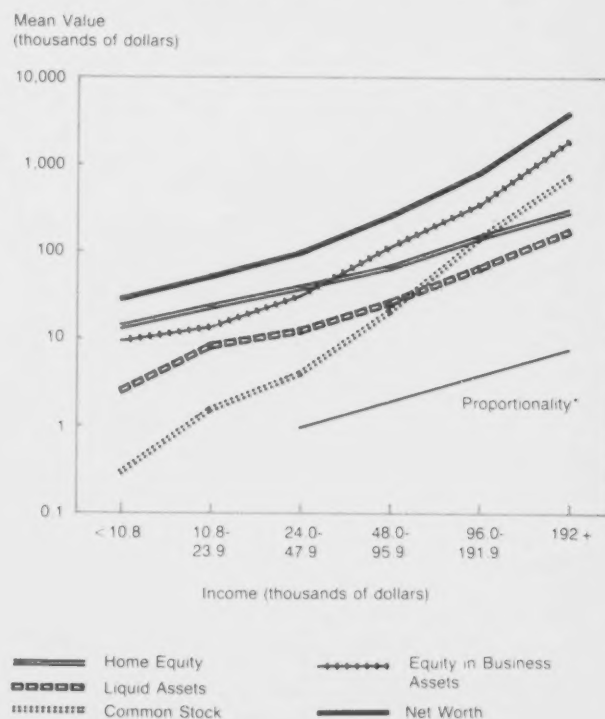
As noted earlier, that picture would be somewhat modified if we were to take account of the value of holdings of pension assets, which are not represented in this table. In addition, if the data related to 1987 instead of 1983, the value of common stock holdings would be substantially greater, given the substantial rise in stock prices over the last four years. But the general configuration of the data in Table 2 would still be about the same.

Income Patterns

A preliminary look at the relation between income and wealth is shown in Chart 2. Here, we show the average holdings of several types of assets according to income class. Both the income categories and the net worth scale are roughly in logarithmic form, although the scales are different so that a 45 degree slope does not represent proportionality.

As a rule, average holdings of all types of assets except housing equity grow more than proportionally as income increases. This is especially true for holdings of common stock and equity in business assets but appears to be roughly true even for liquid asset holdings. Household portfolios are dominated by common stock and equity in business assets for income groups over \$100,000, while they are dominated by housing equity and liquid assets for income groups under \$25,000.

CHART 2. Net Worth and Components by Income



*The slope of this line indicates equal percent changes on both axes

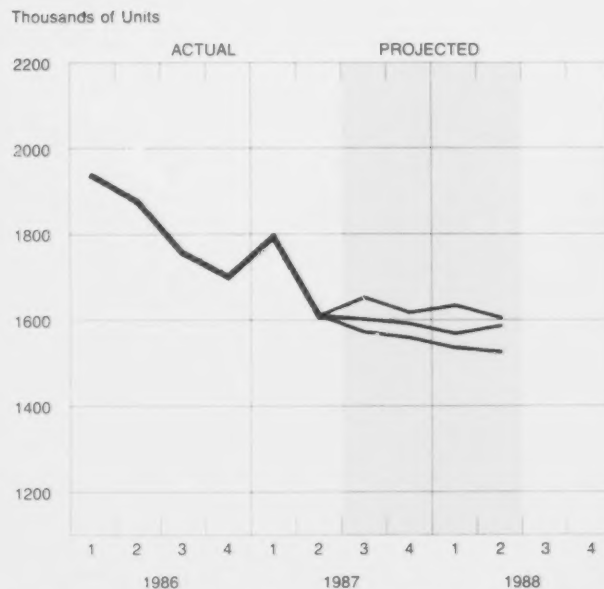
These data provide some interesting insights into the financial behavior of U.S. households. Even though the data are a few years old, their general characteristics are unlikely to change much except for differential changes in asset prices. Thus, for example, it is pretty clear that common stock holdings would be a larger share of household net worth in 1987 than they were in 1983, because common stock prices have risen relative to most other asset prices. Still, the structure is likely to be similar.

From that perspective, these data have at least two interesting insights to offer about the effect of wealth patterns on economic behavior. First, it seems unlikely that even a dramatic rise in stock prices would have a major influence on consumer spending behavior. The reason is displayed visibly in Tables 1 and 2. Table 1 indicates that only about 5 percent of U.S. households own more than \$25,000 worth of common stock, and the great majority (80 percent) don't own any—except for the common stock associated with whatever pension rights they have. Table 2 indicates that, even in net worth classes as high as a quarter of a million dollars to half a million dollars, average holdings of common stock are only about \$20,000, and it is not until one gets to households with more than half a million of net worth that common stock holdings represent a very large number (over a quarter of a million dollars on average). Thus even dramatic changes in stock prices do not affect the wealth position of very many U.S. households, and for those households where the effect is large, saving and asset accumulation motives may well be more focused on bequests and estate considerations than on using wealth to finance consumption. This is not to say that wealth changes have no influence on consumption—they clearly appear to, given most analyses. But the effects are much more modest than many would expect.

Second, the distribution of total wealth by asset characteristics seems to suggest a much more modest role for financial intermediaries in translating consumer saving into investment than is often implied by macroeconomic analyses. Although the data discussed here represent accumulated wealth, wealth is the sum of savings accumulated over the historical past adjusted for capital gains or losses. Thus saving flows are implicit in these wealth estimates. And although we cannot use these data directly to describe the relation between saving and investment flows, we can make some plausible inferences about that relation from the data.

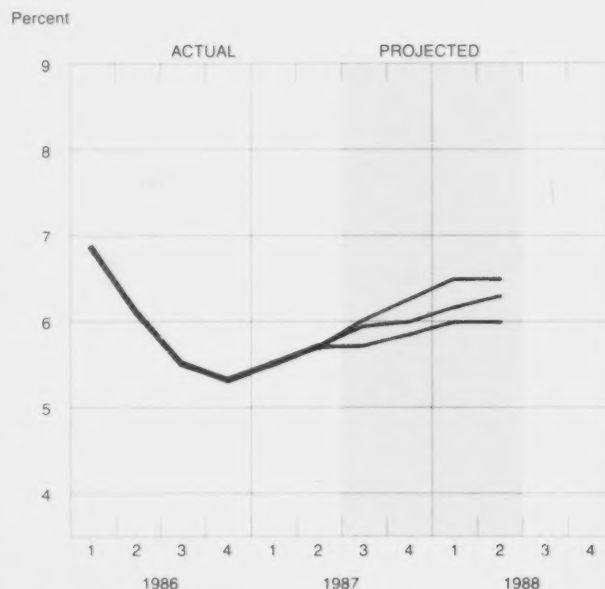
Generally speaking, the characteristics of wealth holdings do not suggest that the dominant pattern of household saving is one of being channeled into capital markets to be borrowed by business firms for productive investment. Of total household wealth (and presumably accumulated savings) about a third is equity in tangible assets (houses and cars), where household saving largely finances household investment. Almost 40 percent of household wealth represents equity in business assets like unincorporated businesses and farms, closely held corporations, and real estate other than owner-occupied housing. For households with these types of assets, saving and investment decisions are likely to be closely related—the saving is invested directly—rather than being conducted through financial intermediaries. Less than a third of household saving is represented by financial claims of a sort that might represent funds channeled into the business sector, and much of that represents funds flowing into owner-occupied housing.

NEW PRIVATE HOUSING UNITS STARTED



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

3-MONTH TREASURY BILL RATE



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

Actual and Projected Economic Indicators

seasonally adjusted

SERIES FORECAST BY THE ASA-NBER PANEL													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	Actual					Projected					Actual	Projected	
	1986:2	1986:3	1986:4	1987:1	1987:2	1987:2	1987:3	1987:4	1988:1	1988:2	1986	1987	1988
GROSS NATIONAL PRODUCT*	4,211.6	4,265.9	4,288.1	4,377.7	4,445.1	4,439.5	4,519.7	4,589.9	4,672.6	4,751.3	4,235.0	4,483.9	4,793.0
GNP IMPLICIT PRICE DEFLATOR* (index, 1982 = 100)	113.7	114.7	114.9	116.1	117.1	117.3	118.4	119.6	120.8	121.9	114.1	117.9	122.6
CORPORATE PROFITS AFTER TAXES*	122.3	130.2	134.0	129.0	134.5	137.1	138.8	139.8	144.6	148.7	128.3	135.8	149.8
UNEMPLOYMENT RATE (percent)	7.13	6.93	6.83	6.67	6.23	6.55	6.50	6.50	6.45	6.50	6.99	6.58	6.50
INDUSTRIAL PRODUCTION (index, 1977 = 100)	124.4	125.0	126.0	127.0	128.3	127.0	128.2	129.3	130.4	131.6	125.1	128.0	132.0
NEW PRIVATE HOUSING UNITS STARTED (millions)	1.878	1.758	1.702	1.795	1.612	1.710	1.700	1.690	1.665	1.685	1.819	1.730	1.660
CONSUMER PRICE INDEX (annualized percent change from prior quarter or year)	-1.30	2.43	2.66	5.26	4.90	4.25	4.35	4.40	4.25	4.45	1.92	3.80	4.50
3-MONTH TREASURY BILL RATE (%)	6.13	5.53	5.34	5.53	5.73	5.72	5.95	6.00	6.18	6.30	5.97	5.80	6.29
NEW HIGH-GRADE CORPORATE BOND YIELD (percent)	9.06	9.14	9.05	8.62	9.65	9.00	9.10	9.25	9.40	9.60	9.23	8.99	9.59
GNP IN 1982 DOLLARS*	3,704.7	3,718.0	3,731.5	3,772.2	3,795.3	3,793.3	3,818.2	3,848.3	3,873.6	3,900.4	3,713.3	3,809.7	3,911.5
PERSONAL CONSUMPTION EXPENDITURES (1982 dollars)*	2,434.3	2,477.5	2,480.5	2,475.9	2,487.5	2,484.4	2,500.6	2,514.7	2,531.9	2,546.0	2,450.5	2,492.2	2,553.6
NONRESIDENTIAL FIXED INVESTMENT (1982 dollars)*	441.0	437.7	443.2	426.0	437.9	454.5	458.2	463.5	466.1	471.1	443.8	456.4	473.7
RESIDENTIAL FIXED INVESTMENT (1982 dollars)*	196.5	201.1	202.2	198.2	196.8	199.0	199.0	196.9	195.9	196.9	196.4	199.0	197.2
CHANGE IN BUSINESS INVENTORIES (1982 dollars)*	28.1	6.1	-14.4	47.6	39.0	12.1	13.6	10.1	18.2	20.2	13.8	17.2	20.9
NET EXPORTS (1982 dollars)*	-146.8	-161.6	-151.8	-135.2	-132.7	-130.3	-127.3	-120.2	-115.5	-110.0	-145.8	-127.3	-106.0
FEDERAL GOVERNMENT PURCHASES (1982 dollars)*	330.6	332.6	344.6	327.3	332.6	338.8	342.0	343.9	341.9	342.4	332.5	340.8	344.4
STATE AND LOCAL GOVERNMENT PURCHASES (1982 dollars)*	421.0	424.6	427.1	432.3	434.1	431.2	433.3	435.3	436.3	439.3	422.1	432.3	439.4

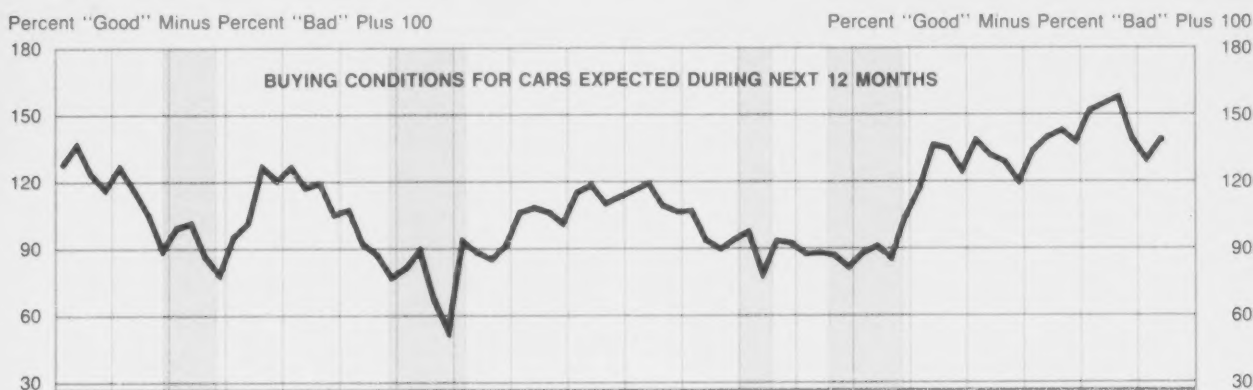
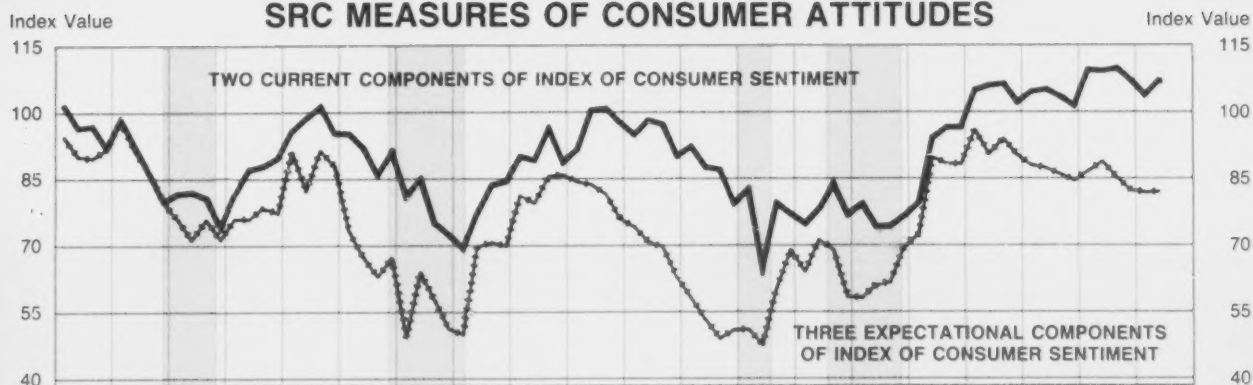
SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	1985:1	1985:2	1985:3	1985:4	1986:1	1986:2	1986:3	1986:4	1987:1	1987:2	1984	1985	1986
GROSS NATIONAL PRODUCT*	3,921.1	3,973.6	4,042.0	4,104.4	4,174.4	4,211.6	4,265.9	4,288.1	4,377.7	4,445.1	3,772.2	4,010.3	4,235.0
PERSONAL CONSUMPTION EXPENDITURES*	2,549.9	2,602.0	2,665.4	2,700.1	2,737.9	2,765.8	2,837.1	2,858.6	2,893.8	2,943.7	2,430.5	2,629.3	2,799.8
GROSS PRIVATE DOMESTIC INVESTMENT*	638.6	648.4	628.6	650.8	683.4	679.4	660.8	660.2	699.9	702.6	664.8	641.6	671.0
NET EXPORTS*	-51.5	-77.3	-84.7	-103.5	-93.8	-100.8	-110.5	-116.9	-112.2	-118.4	-58.9	-79.3	-105.5
GOVERNMENT PURCHASES*	784.1	800.5	832.8	857.0	846.9	867.2	878.5	886.3	896.2	917.1	735.9	818.6	869.7
DISPOSABLE PERSONAL INCOME*	2,762.2	2,848.4	2,847.2	2,906.6	2,966.0	3,022.4	3,038.2	3,061.6	3,125.9	3,130.6	2,668.6	2,841.1	3,022.0
PERSONAL SAVING RATE* (percent of disposable income)	4.8	5.7	3.4	4.1	4.7	5.5	3.6	3.6	4.4	3.0	6.2	4.5	4.4

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in late September, and projected data, released by ASA-NBER in June, are displayed for second quarter 1987.

Sources: Projections: American Statistical Association—National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

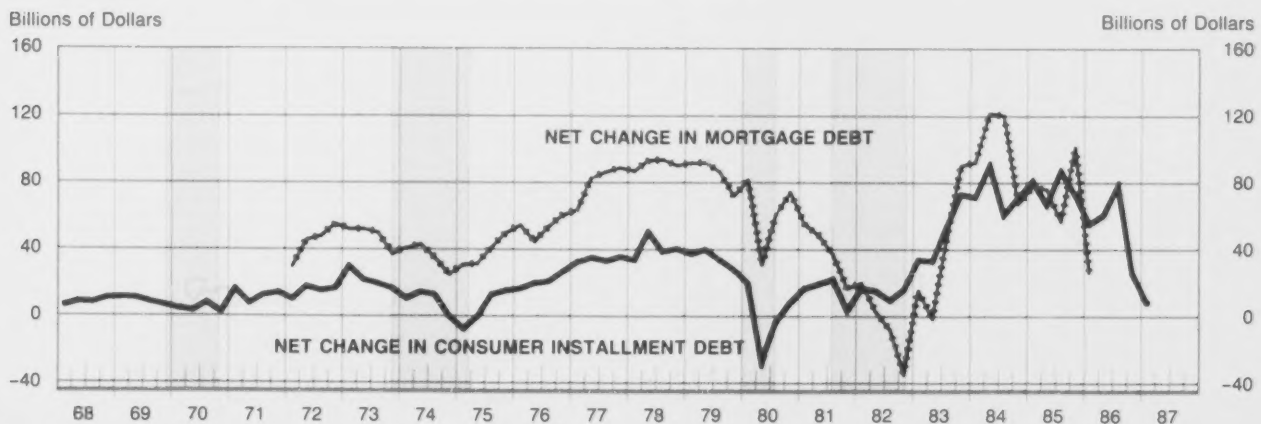
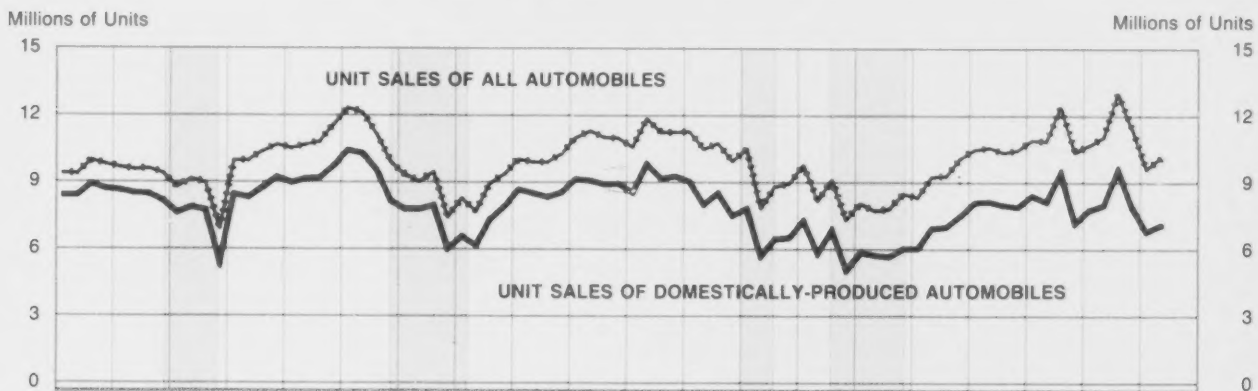
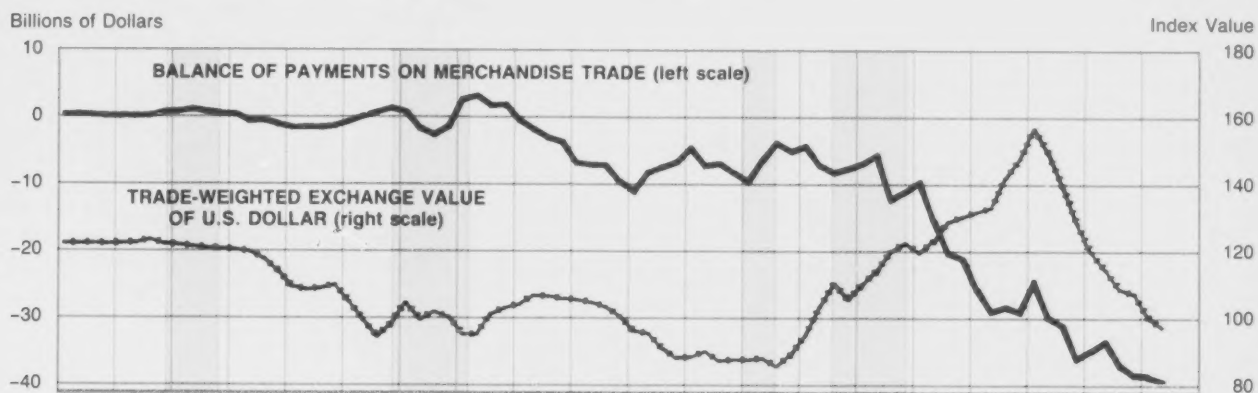
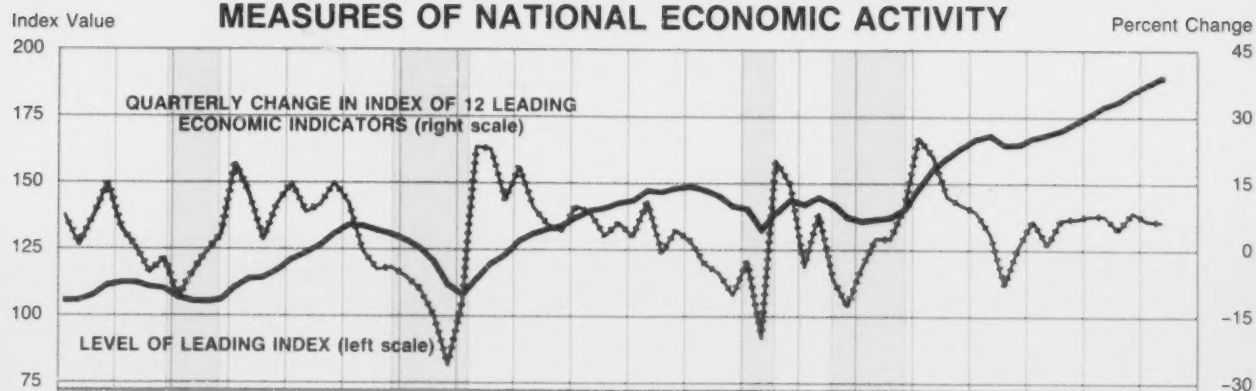
*Substantial revision of the data for series marked with an asterisk has occurred since the last printing.

SRC MEASURES OF CONSUMER ATTITUDES



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

MEASURES OF NATIONAL ECONOMIC ACTIVITY

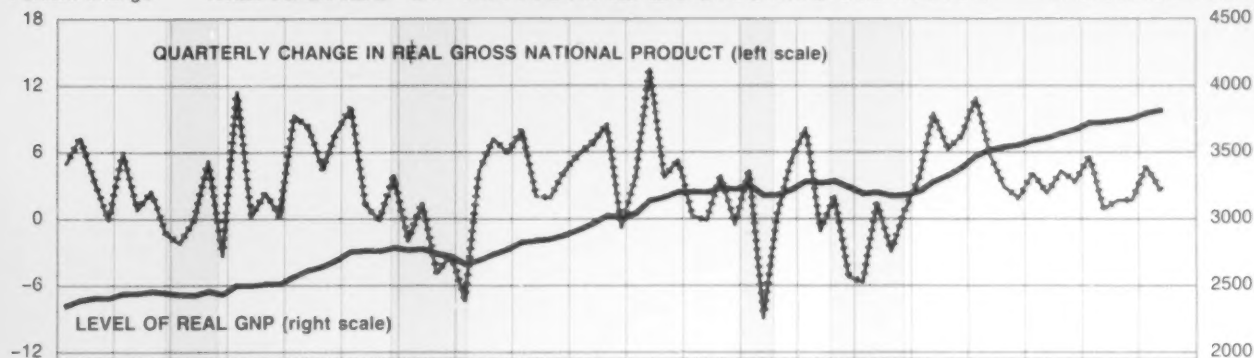


Note: Shaded areas indicate recession periods as designated by the NBER; percent changes are at annual rates.

MEASURES OF NATIONAL ECONOMIC ACTIVITY

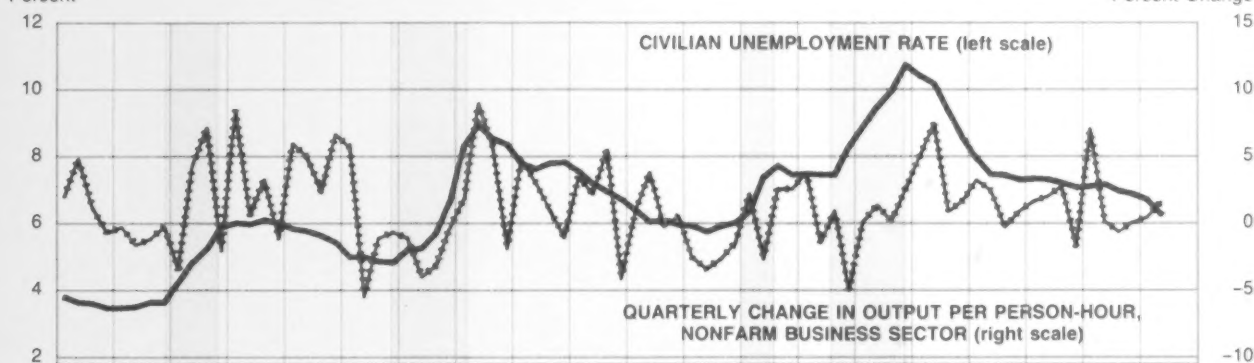
Percent Change

Billions of 1982 Dollars



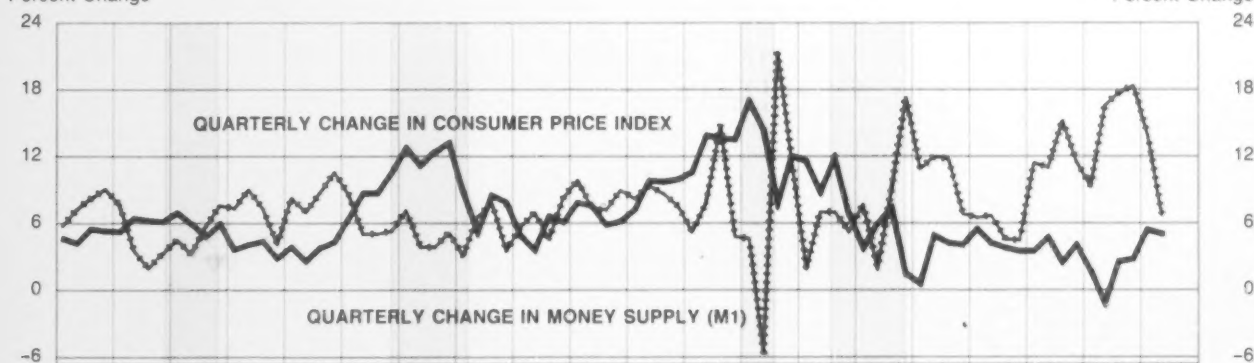
Percent

Percent Change



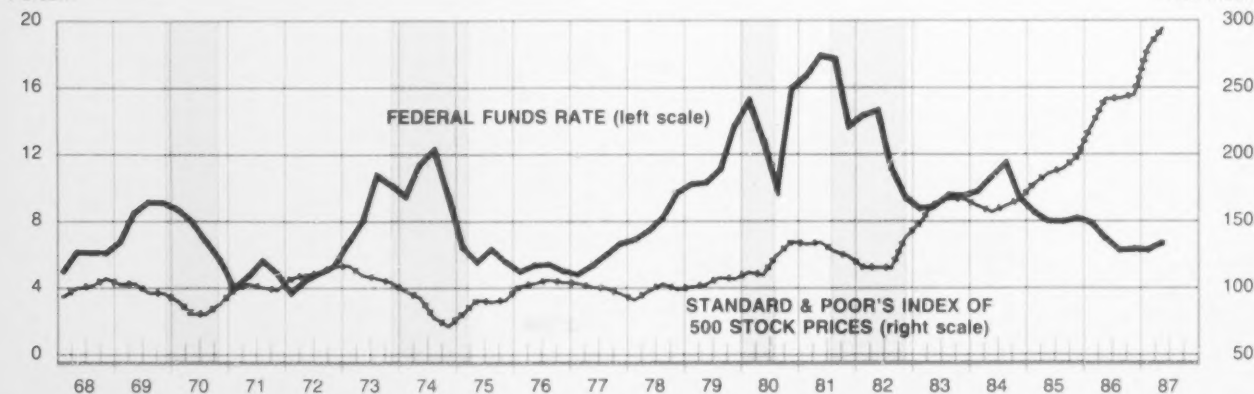
Percent Change

Percent Change



Percent

Price Index



Note: Shaded areas indicate recession periods as designated by the NBER; percent changes are at annual rates.

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and Tamas Rozgonyi

Researchers and industrial plants in Bulgaria, Hungary, Ireland, Mexico, Romania, and West Germany participated in the collaborative cross-national study described in this volume.

The research looked at how persons at upper and lower levels of an organization differ from one another in levels of satisfaction, involvement, and motivation in their jobs; in identification with and loyalty to their organizations; in the degree to which their needs for self-esteem and self-actualization are met; and in other significant characteristics.

The research design followed a similar format in all the countries and employed a common questionnaire that was translated from English into the language of each country. At least ten plants in each country participated in the study, roughly matched across countries in size, type of industry, and type of technology.

The findings suggest generalizations that transcend culture and politics and that persist despite some variations in method and approach. Summary chapters describe the context for these findings within the field of organization research.

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1988 FORECAST ISSUE

S.H. Hymans, J.P. Crary, and J.C. Wolfe
The U.S. Economic Outlook for 1988-89

Victor Zarnowitz
On Causes and Consequences of
Financial Instability

F. Thomas Juster
Stock Prices and Consumer Spending:
an Appraisal of the Great Crash

Richard T. Curtin
The Crash and the Consumer

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ECONOMIC OUTLOOK USA is designed to aid private and public decision makers in achieving a better understanding of the economic and social environment in which they will be operating. The analysis of this publication incorporates direct measurements of the expectations, attitudes and plans of both consumers and business firms with the economic and financial variables traditionally used in forecast models. The philosophy of this publication is that a blend of anticipatory and traditional measures provides richer insights into prospective developments, insights which will produce more consistently reliable forecasts of both economic and social change.

The opinions expressed in this publication represent those of individual authors and do not necessarily reflect the views of the Survey Research Center or The University of Michigan. The editor, as a matter of policy, makes no attempt to reconcile divergent opinions.

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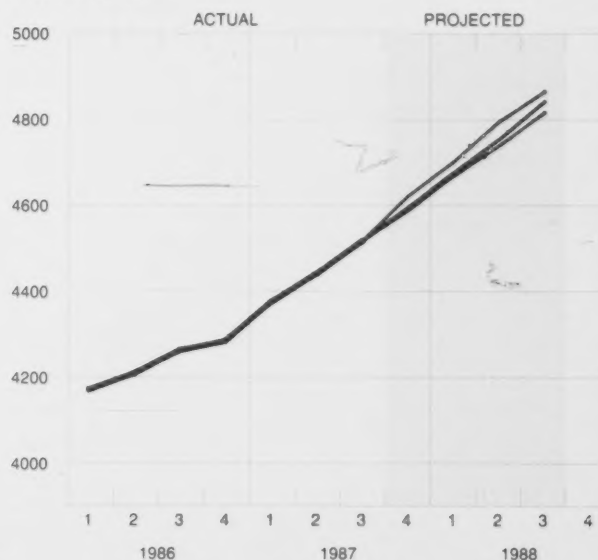
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ECONOMIC PROSPECTS: Actual and projected seasonally adjusted quarterly data at annual rates.

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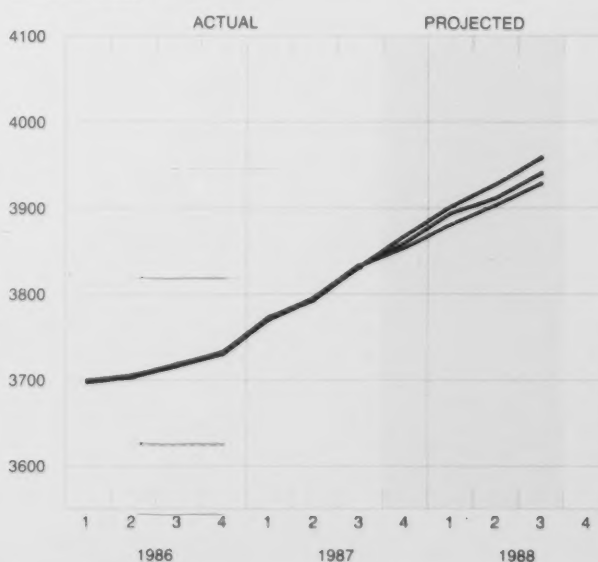
IN CURRENT DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

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Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

The U.S. Economic Outlook for 1988-89¹

Saul H. Hymans, Joan P. Crary, and Janet C. Wolfe
Research Seminar in Quantitative Economics
The University of Michigan

Review of the Economic Forecast for 1987

We are now estimating that real GNP for 1987 will wind up at 3808.7 billion 1982 dollars—up \$95.4 billion compared with 1986. We forecast an increase of \$123.2 billion for this year's real GNP at the Outlook Conference of a year ago—an error of about \$28 billion. In percentage terms, we forecast a growth rate of 3.35 percent, which exceeds our current estimate of 2.57 percent by about 8/10 of a percentage point. Over the past 15 or 16 years our November forecasts have produced a root mean squared error of 1.3 percentage points, which implies that last year's forecast error was fairly small when judged on this single dimension.

Clearly, we need to go much further than this if we wish to evaluate the quality of a macroeconomic forecast which covers many variables and their unfolding over time. One informative, but still rather aggregative, way to do this is to focus on GNP growth, inflation, short-term interest rates, and the exchange value of the U.S. dollar. A year ago we indicated that the economy's growth rate would accelerate from late 1986 into early 1987 and then back off slowly for the balance of the year. We were quite correct regarding the peak growth rate in 1987:1 and the slightly lower growth rate for 1987:3, but we missed the flat fourth quarter of last year and the extent of the dip in the growth rate for 1987:2. We were substantially off for the closing quarter of this year, which we now estimate will produce a growth rate of only about one-half of one percent (annual rate), largely as a result of the movement in the stock market. This analysis also indicates why our forecast was high for the year as a whole: we got the year started at too high a level by overestimating GNP in 1986:4 and then compounded the error by overestimating the growth rates for the second and fourth quarters of this year.

We were very close on the inflation rate, but our forecast was somewhat smoother than the actual path turned out to be. On the other hand, we were far too low on interest rates. By the third quarter of the year the 3-month treasury bill rate was nearly 150 basis points above where we thought it would be. At least a part of the reason for this is explained by the weakness of the dollar in the international exchange market. Early in the year the Fed—with the sometime cooperation of other central banks—elected to stave off some of the downward pressure on the dollar by allowing U.S. interest rates to rise, and by mid-year the Fed appears to have been pushing rates up to try to strengthen the dollar. We had forecast a

fairly steady drop in the value of the dollar, bringing it down by 7½ percent from 1986:3 to 1987:3. The net decline was, in fact, about 9 percent over that period, but the pattern differed from that in our forecast. The dollar dropped sharply through mid-year—a decline of 10½ percent from 1986:3 to 1987:2, the period during which the Fed was allowing domestic interest rates to rise. Then, in the summer and fall, the Fed began to push rates even higher, other central banks intervened in the currency markets to depreciate their own currencies, and the dollar rose a bit between the second and third quarters of the year. The dollar has now turned sharply down again, and we are estimating a drop of 8½ to 9 percent for the current quarter—the sharpest one-quarter decline since the dollar peaked in early 1985.

To summarize to this point: we were a bit overoptimistic on GNP growth and were very close on inflation, but we had too low interest rates and too strong a dollar. This would imply that our forecast should have been too strong in the interest-sensitive sectors of the economy and too weak on net exports. And that is exactly correct.

For the year as a whole, we had forecast auto sales at 10.6 million units, compared with our current estimate of 10 million units. This contributed to a \$13 billion overprediction in real purchases of consumer durables. Our error in interest rates included mortgage rates as well, and we overestimated real residential construction activity by more than \$18 billion. These two items alone account for an excess GNP forecast of more than \$31 billion (1982 dollars). Two-thirds of that error was offset by our underprediction of real net exports. A year ago, when we forecast that real net exports would deteriorate by only \$5½ billion in 1987—following a drop of nearly \$40 billion in 1986—a good many of the recipients of our forecast thought that was where we were being wildly optimistic. In fact, it now appears that real net exports will have improved by nearly \$16 billion for the year, and that our forecast erred in having both too little real export growth and too high a growth of real imports.

Our offsetting errors in net exports and consumer durables, including housing, net out to only about \$10 billion, but our overprediction of real GNP totals nearly \$30 billion. The rest of our error—and rather surprising at that—is in consumer purchases of nondurable goods, which are up less than \$3 billion for the year as a whole compared with our forecast of a \$21 billion rise. What is especially peculiar about this is that it appears to be concentrated in a drop in food consumption. It's hard to rationalize that observation, and one sound strategy may be to wait and see how much of it survives next July's revision of the NIPA data.

The Economy in November 1987

We turn now to the current state of the economy as the first step in preparing to look ahead to 1988 and 1989. Obviously, the single most astounding event on the current

¹This article is adapted from Dr. Hymans' presentation to the 35th annual Conference on the Economic Outlook at The University of Michigan, November 1987. Shortly before the conference took place, Dr. Hymans was, for the second time, awarded the Theodore H. Silbert Award for Economic Forecasting, given annually to recognize "accuracy, timeliness, and professionalism in economic forecasting." Forecasts of real GNP growth, the unemployment rate, and the inflation rate for the period 1984-86 were evaluated for the award, which is sponsored by the Sterling National Bank and Trust Company of New York City.

scene is the record drop in stock prices in the U.S. and the other major exchanges around the world. Chart 1 provides the perspective of a ten-year look at the Dow Jones Industrial Average from January 1978 through last month, with the October value split into the daily average for October 1-16 and the daily average for October 19-30. It is clear that the stock market went nowhere from early 1978 through mid-1982. Indeed, the same picture of a stagnant market carries all the way back through the very beginning of the decade of the seventies. The market began to move up in mid-1982, did so for about a year, then held steady again until late 1985, when it began a sharp climb which lasted for nearly two years. If the long period of stagnation marked the development of a grossly undervalued stock market, developments since mid-1982 certainly provided substantial correction. From July 1982 through September of this year the market—as measured by the Dow Industrials—rose at an average rate of 25 percent per year. And even with the drop to an average of just under 900 for the 2nd half of October—which matches the December 1986 value—the market still registers a growth rate of 17 percent per year since July of 1982.

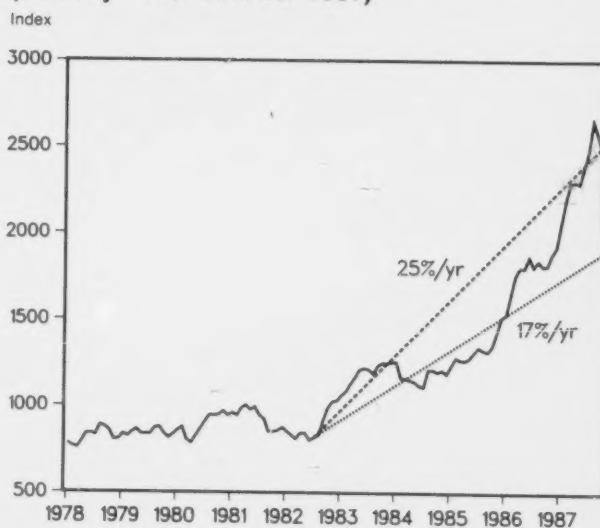
Obviously, market participants who were new buyers of stock during the first nine months of this year have taken some heavy losses—either potentially or in fact—during the past month. Most other participants in the market—whether individuals, institutions, pensions funds, or whatever—are clearly somewhat less well off than they might have thought a month or more ago but, on average, have not incurred losses relative to the prices at which their stocks were acquired. That is the current situation and will remain true as we look ahead if the market averages remain at about their current levels. Our forecast is predicated on exactly that assumption: the stock market bubble that developed during the first nine months of this year has now been pricked and we've gone back to "go," which is where we were at the end of last year.

The down side of all this with respect to the economic outlook involves two aspects. The first has to do with the relatively new investors who incurred the big losses by having bought heavily during the first nine months of this year. These participants have suffered actual wealth losses—whether yet realized or not—which could be substantial enough to dampen not only their spirits, but also their purchases of goods and services. This extreme group is clearly very small in economic weight, which is in no way meant to minimize the real pain being felt within the group.

The second aspect of the market decline has to do with what might be a permanent change in perceptions about future wealth increases, and the potential effect of such altered perceptions on economic behavior. If this is thought to be of great quantitative importance, it should be the reversal of a major improvement in perceptions about future wealth that ought to have developed sometime in the past few years after the market broke out of its long period of stagnation. At least as far as our econometric model is concerned, there is no significant evidence of any euphoric economic behavior on the up side of the stock market's recent history. We are therefore not convinced that the down side will impart a long-term negative impulse to the state of aggregate demand.

We are, however, prepared to incorporate a negative impulse for the very near term on the presumption that some who would otherwise be both willing and able to

CHART 1. Dow Jones Industrial Average (January 1978–October 1987)



make major expenditures will hold off for a few months just to be sure that their economic world is not collapsing around them. That includes consumers in their purchases of cars and other big-ticket durables and businesses in their ordering and production of what might wind up in inventories. That, in fact, is the basis for our forecast of a real GNP growth increase of only about one-half of one percent at annual rate in the closing quarter of this year.

Looking at our near-term forecast in greater detail, we expect a \$10 billion drop—or one percent at annual rate—in real final sales this quarter. In the consumer sector, the drop in final demand is concentrated in the consumer durables area. Real business fixed investment is also forecast to decline this quarter, with the drop being entirely in purchases of non-production equipment, including business purchases of automobiles. In total, we are expecting fourth quarter car sales to fall from the 11½ million unit pace which was registered in the incentives-driven third quarter to a pace of 8.9 million units, the lowest rate of car sales since early 1983, when the economy was just moving out of the 1981-82 recession. Residential building activity will be down this quarter—and in 1988:1 as well—as the housing market continues to feel the effects of the recent upsurge in mortgage interest rates.

All that is visible on the up side for this quarter is a sharp improvement in the level of real net exports. We are anticipating a \$24 billion improvement in real net exports in 1987:4, half of which marks a continuation of the rate of improvement experienced in the third quarter in that portion of our trade balance which excludes oil imports. The rest comes from an assumed drop in oil imports. The third quarter registered nearly a \$20 billion increase in real oil imports as the domestic oil industry stocked way up under the impetus of uncertainty in the Persian Gulf. We are assuming that oil imports will return to a more normal level over the next two quarters.

Real GNP is forecast to be up a bit this quarter, despite the \$10 billion drop in real final sales. Although non-auto inventory investment is forecast to be down by about \$8 billion for the quarter, we expect a swing of plus \$23 billion in the new autos component of inventory investment,

which implies a net upward swing of \$15 billion in total inventory investment. The recent auto incentives cleared out inventories by enough to produce a negative \$16.8 billion in auto inventory investment in the third quarter of the year, and we anticipate a rise in auto stocks this quarter as sales are expected to drop more sharply than auto production.

The expectation, then, is that the unemployment rate will tick up for several months and industrial production numbers will back off a bit for a few months. But our fourth quarter economy is just slow, not a disaster and not anything sharply different from what has been experienced from time to time in the recent past. This scenario will, in our view, reverse, rather than reinforce, the hesitancy which we expect to characterize some aspects of demand behavior in the current quarter.

At the same time, we anticipate the development of certain other factors which will have positive effects, either on the economic outlook directly or on perceptions about the underlying economic environment. The U.S. dollar will end the year at a level well below what might have been anticipated a short time ago. This will have sharply positive effects on our international performance for reasons that will be discussed shortly. We also expect interest rates, including mortgage rates, to be down early in 1988 from their highs of 1987; and longer-term expectations should be bolstered by the evidence that some progress is possible on the federal budget front, about which more will be said below.

All of these factors are consistent with a rebound in the first quarter of next year, and we are forecasting a 3½ percent rate of increase in real GNP and even more—a growth rate of nearly 5 percent—in real final sales. It is implied in what has already been said that we expect real economic growth to continue beyond the first quarter of next year. We turn now to a more explicit consideration of the assumptions underlying the outlook beyond the very near term.

Inputs: Fiscal Policy

A new Gramm-Rudman-Hollings (GRH) law is on the books, passed as part of the debt ceiling bill in late September. It contains an apparently legal procedure for mandating expenditure reductions to achieve a gradual drop in the federal deficit if the normal budget negotiation process doesn't appear to be on the track of achieving a target deficit path. Does it really matter whether we approximate the target path via automatic expenditure reductions or a process of executive and legislative negotiation? From a more microeconomic perspective, the answer is obviously "yes." The two processes would surely yield quite different budget details, with different gains and losses imposed on different groups and activities in society. The federal budget—both taxing and spending—ought to reflect the priorities and perceptions of the nation as understood by its elected government officials, and across-the-board budget cuts are not likely to be the right answer on that score. The implementation of automatic cuts under GRH would be evidence of a failure of the democratic process, and recent history would leave us little choice but to place that failure on the president's doorstep.

But does how we get there matter from a macroeconomic perspective? With regard to underlying economic fundamentals, it should matter very little indeed. As

economists we understand that there are technical macroeconomic differences between a \$10 billion cut in defense spending, a \$10 billion cut in grants-in-aid, and a \$10 billion increase in taxes. But the technical differences are small and are swamped by so many other related and unrelated factors which push at the margin of the macroeconomy. In fact, this may not be why the markets appear to be looking for a budget compromise. After all, the new GRH law not only changed the enforcement procedure, it loosened up on the target deficit path as well. The markets may be concerned that, absent the will to come up with a meaningful compromise, the Congress will simply pass a new GRH bill every time a tough expenditure cut is in the offing.

If the major world markets—whether for currencies, other financial assets, or goods—and the major policy makers in the Western nations base their economic behavior on a reasonably consistent perception about what's important and what matters, that's going to have an effect on all of us. And right now it does seem to matter whether or not the budget negotiation process in Washington produces credible evidence that this nation will begin to make the hard choices necessary to achieve a responsible fiscal policy even before the name on the door at 1600 Pennsylvania Avenue changes.

Altering the budget path this year through successful negotiation rather than automatic GRH cuts may produce very little in the way of new economic fundamentals. It may mean only that the daily fluctuations in the stock market will be smaller than otherwise in the coming months, that the dollar will decline in a more orderly fashion, and that American consumers will feel a bit less uncertain about their economic prospects. But these are very big "only's," and their importance for where the U.S. economy goes over the next year should not be discounted. At this writing we don't know how the negotiation process in Washington came out, but we do assume that it claimed a credible degree of progress and have prepared our forecast on that basis. We want first to clarify certain issues being dealt with in the budget process, and then to turn briefly to the specific assumptions we have made.

The revised Gramm-Rudman-Hollings deficit reduction legislation establishes a new automatic federal spending-cut procedure along with higher deficit targets than were contained in the original Gramm-Rudman-Hollings law. The revised deficit targets are \$144 billion for fiscal 1988 and \$136 billion for fiscal 1989, followed by \$100 billion, \$64 billion, \$28 billion, and zero for fiscal years 1990–1993, respectively. A \$10 billion margin of error is allowed for each year except 1993, meaning that automatic spending cuts would be triggered only if the projected deficit exceeded the target by more than \$10 billion. Special provisions limit the size of the automatic reductions in fiscal years 1988 and 1989.

For fiscal year 1988, the automatic spending cuts are limited to \$23 billion and can be avoided if Congress and the president lower the projected deficit by this amount by November 20th. The required federal budget savings are calculated relative to the deficit that would occur if fiscal 1987 appropriations were adjusted for inflation and for program participation under existing law. For fiscal year 1989, the automatic cuts are limited to \$36 billion relative to current spending adjusted for inflation and program participation.

Table 1 presents projections of baseline federal government receipts and expenditures which reflect existing law, including the Tax Reform Act of 1986. The fiscal year expenditure increments shown in this table are based on projections made in August by the Congressional Budget Office and reflect the adjustments required to account for inflation and natural increases in program participation.² This "business as usual" budget projects an increase in federal expenditures of \$67 billion in fiscal 1988 and an additional \$70 billion in fiscal 1989. With CBO's revenue projections, the resulting federal deficits would be \$176 billion in fiscal 1988 and \$179 billion in fiscal 1989.

The Gramm-Rudman-Hollings automatic cuts would reduce expenditures by \$23 billion in fiscal 1988 and by an additional \$13 billion, for a total of \$36 billion, in fiscal 1989. With the same CBO revenue projections, the resulting federal deficits would be \$153 billion in fiscal 1988 and \$143 billion in fiscal 1989, as shown in the bottom line of Table 1. To avoid the automatic spending cuts mandated by the revised Gramm-Rudman-Hollings legislation, Congress must trim \$23 billion from the baseline fiscal 1988 deficit through a combination of expenditure reductions and tax increases, and up to \$36 billion from the baseline fiscal 1989 deficit.

In our forecast, projected federal expenditures for fiscal 1988 are \$57 billion above fiscal 1987 expenditures. This \$57 billion increase achieves a \$10 billion reduction relative to the projected baseline increase, reflecting adjustment for inflation and program participation. For fiscal 1989, our projected federal expenditures reflect an additional \$13 billion reduction, for a total reduction of \$23 billion in spending relative to the inflation- and participation-adjusted baseline for fiscal 1989.

Our projected federal revenues include tax increases totaling \$13 billion starting in the first quarter of 1988, which result in \$10 billion of additional revenue in fiscal 1988. The revenue increases include continuation of the telephone excise, custom duty, and unemployment taxes that were scheduled to expire at the end of 1987; increases in estate and gift taxes and taxes on non-wage income; higher fees for certain federal services; and increases resulting from changes in tax rules for the corporate minimum tax. Together, our tax and expenditure assumptions imply federal budget savings of \$20 billion in fiscal 1988 and \$36 billion in fiscal 1989 relative to the inflation- and program-participation-adjusted baseline.

The details of our assumptions regarding the federal budget are summarized in Table 2. Federal expenditures, which increased by an exceptionally small 2.7 percent in fiscal 1987, are assumed to increase by 5.4 percent in fiscal 1988 and 5.1 percent in fiscal 1989. While larger than the expenditure increase for fiscal 1987, these increases remain well below the increases for fiscal 1985 and 1986 (10 and 6.7 percent, respectively). Defense spending, which increased by 5.1 percent in fiscal 1987, is projected to increase by only 4.2 percent in each of fiscal years 1988 and 1989. The defense spending increases reflect pay increases averaging 3 percent in each fiscal year and increases, excluding pay, of 3.3 percent in fiscal 1988 and 3.4 percent in fiscal 1989. Nondefense purchases, which were 8.3 percent lower in fiscal 1987 than in fiscal 1986, are projected to increase by 3.3 and 3.7 percent, respectively,

TABLE 1. Projected Baseline Federal Government Receipts and Expenditures (Current Law Adjusted for Inflation and Program Participation) And Revised Gramm-Rudman-Hollings Expenditure Cuts (NIPA Basis, billions of dollars)

Totals and Components	Actual	Projected	
	Fiscal 1987*	Fiscal 1988†	Fiscal 1989†
Baseline Budget			
Surplus (+) or Deficit (-)	-161‡	-176	-179
Receipts	894	945	1012
Expenditures	1054	1121	1191
GRH Cuts to Baseline Expenditure Path in FY 1988		-23	-23
GRH Cuts to Baseline Expenditure Path in FY 1989			-13
Surplus (+) or Deficit (-) Implied by GRH Adjustments, Ignoring Fiscal Effects on Tax Revenues		-153	-143

*Available data for fiscal 1987 are from the *Survey of Current Business*, October 1987.

†Revenue projections and changes in expenditures relative to fiscal 1987 are from the Congressional Budget Office, *The Economic and Budget Outlook: An Update*, August 19, 1987, p. 61.

‡Some receipt and deficit components for 1987:3 are RSQE projections.

in fiscal 1988 and 1989. Transfer payments to persons are assumed to increase by 5.7 percent in fiscal 1988 and 6.5 percent in fiscal 1989, including social security benefit increases of 4.2 percent for calendar 1988 and 5½ percent for calendar 1989. Grants-in-aid to state and local governments, which were 3.2 percent lower in fiscal 1987 than in fiscal 1986, are projected to increase by 2.7 and 2.3 percent, respectively, in fiscal 1988 and 1989.

Federal receipts presented in Table 2 reflect our own economic forecast as well as the effects of the Tax Reform Act of 1986 on personal income and corporate profits tax revenues, and the tax increases assumed as part of the budget compromise to comply with the deficit reduction targets. We estimate that tax reform generated a net gain in revenue of nearly \$19 billion in fiscal year 1987. For fiscal year 1988, we project that a \$29½ billion loss in personal tax collections will be partially offset by a \$19½ billion gain in corporate tax liabilities, leaving total revenue \$10 billion below what it would have been without the Tax Reform Act of 1986. For fiscal 1989, we project a revenue loss of \$16 billion, reflecting a loss of \$41 billion in personal tax collections, partially offset by a gain of \$25 billion in corporate profits tax liabilities due to the Tax Reform Act.

The bottom line is a federal deficit amounting to \$168 billion in fiscal 1988, which fails to meet the fiscal 1988 target but is little different from the fiscal 1987 deficit,

²Congressional Budget Office, *The Economic and Budget Outlook: An Update*, August 19, 1987, p. 61.

which was held down by extra tax revenues generated by the Tax Reform Act. The deficit is forecast to decline to \$145 billion in fiscal 1989, which is within \$10 billion of the new fiscal 1989 Gramm-Rudman-Hollings target.

Inputs: International Factors and Monetary Policy

We turn now to a consideration of the international economic scene and the near-term conduct of monetary policy. There is one overriding and fundamental reason why we must not continue to run a large trade imbalance. A trade imbalance has to be financed by an inflow of foreign investment. That inflow can be used to purchase U.S. government debt, the stocks and bonds of U.S. industry, American real estate and businesses, or any combination of these. Whatever form it takes, it generates dollar earnings for the foreign owners of the capital invested, and those dollars flow out of the country to worsen our trade imbalance just like rising U.S. imports of foreign goods or declining U.S. exports. If our imbalance of trade on goods doesn't improve dramatically, our total trade imbalance will grow geometrically worse, and the ultimate correctives will grow progressively less palatable.

TABLE 2. Federal Government Expenditures in the National Income and Product Accounts (billions of dollars)

Totals and Components	Actual	RSQE Projections	
	Fiscal 1987*	Fiscal 1988†	Fiscal 1989†
Federal Expenditures	1054.2	1111.2	1168.2
Purchases of Goods and Services	374.9	389.9	405.8
National Defense	289.2	301.4	314.0
Nondefense	85.7	88.5	91.8
Transfer Payments	410.3	434.0	461.2
Unempl. Benefits	15.4	15.4	15.6
Grants-in-Aid to State and Local Governments	103.6	106.5	109.0
Net Interest Paid	140.0	150.8	162.3
Subsidies Less Current Surplus of Gov't. Enterprises	25.3	30.0	30.0
Federal Receipts	893.6‡	943.4	1023.4
Deficit (-)	-160.6‡	-167.8	-144.8

*Data for fiscal 1987 are from the *Survey of Current Business*, October 1987.

†RSQE projections and Control Forecast for fiscal years 1988 and 1989.

‡Some receipt and deficit components for 1987:3 are RSQE projections.

Import restrictions are not the answer because in the long run they will also kill much of our export activity. To the extent that other countries employ barriers against our exports we must, symmetrically, fight that behavior with determination. It may also be that, as a nation, we have to begin to care about what it takes to develop export markets and to care more about the kinds and quality of goods we produce for export and import substitution. But primarily it means that we have to let the dollar continue to depreciate. The U.S. dollar is now back to where it was seven years ago, when we had a positive net export balance. This year our net export balance will be about \$125 billion in the red. We can't balance at the current exchange value of the dollar; it simply has to keep going down. If the dollar is now 30 percent too high, the only reason we might not want it to drop by 30 percent quite suddenly is that other countries could begin to lose exports so rapidly that they would be unable to prevent their economies from entering into serious recessions, which would then hurt their abilities to buy our exports, despite the much lower prices of our goods in their countries. Thus it is important to have an orderly and steady decline in the dollar accompanied by stimulative monetary policies abroad and a coordinated policy of balanced interest rate relations among the major trading partners.

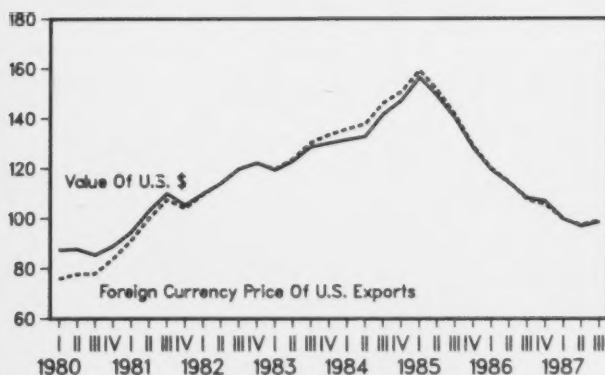
The critical importance of the exchange value of the dollar to our import and export prices and, through them, to our trade flows is clearly indicated in Charts 2 and 3. The foreign currency price of our exports (Chart 2, Panel A) is directly and closely linked to the value of the dollar. The dollar price of our imports is inversely related to the value of the dollar, but the relationship has been quite loose in recent years as foreign exporters have priced to offset sharp changes in the value of the dollar, first to establish and more recently to maintain their positions in the U.S. market (see Chart 2, Panel B). Panel A of Chart 3 shows the extent to which our exports are linked to the home-currency price that has to be paid for our goods abroad. There was a sharp upturn in U.S. exports soon after the foreign currency price of exports began to decline with the U.S. dollar in 1985. As shown in Panel B of Chart 3, only in recent quarters has there been a detectable increase in real import prices to Americans, and that has been accompanied in the first instance by a lower rate of increase of our non-oil imports.

The U.S. dollar has now come down sharply compared with where it was just a few months ago. But the current drop in the dollar is being accompanied by policy-induced reductions in interest rates in other major countries. If this step-down in foreign interest rates becomes even more widespread and in some cases is accompanied by more stimulative fiscal policies as well, the economies of our major trading partners will remain strong enough to absorb a greater inflow of American goods even as their exports to the U.S. begin to drop. This is what effective international policy cooperation has to mean in the current context, and, following a bit of uncooperative behavior and recriminations a few months back, it appears that the right message is now being sent and received. Maybe the gross visibility of international linkages as revealed in the recent behavior of the securities markets has helped drive this same point home as well.

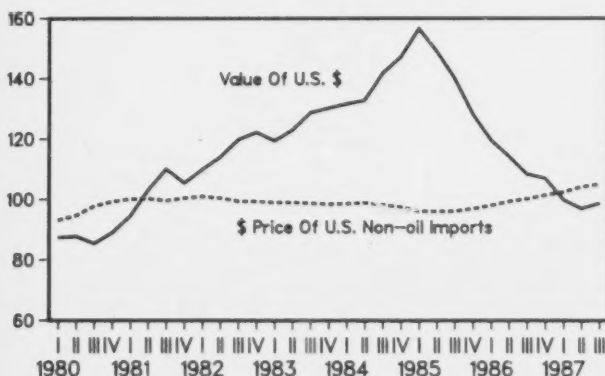
As mentioned earlier, we have assumed that the U.S. dollar will be down by 8½ to 9 percent for the current quarter compared with its value in 1987:3. In the absence

CHART 2.**A. Value of the Dollar and Export Prices**

Index

**B. Value of the Dollar and Import Prices**

Index



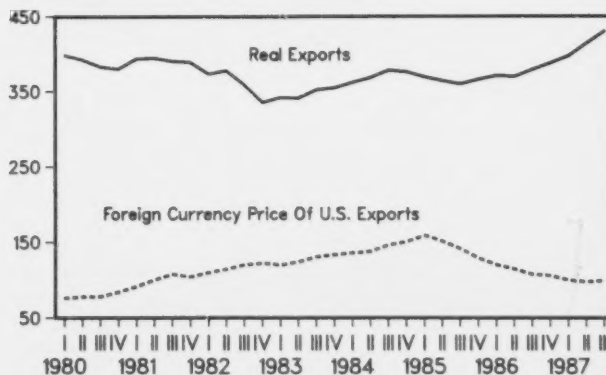
of central bank interventions, the dollar will continue to fall in value. In the spring of this year foreign interest rates were pushed up relative to U.S. rates and the dollar dropped sharply, whereupon actions were reversed to try to stabilize the dollar. The same thing occurred a few months ago and again generated the fear of a free-fall in the dollar. It is our view that the new level established by the current drop in the dollar will be accompanied by lower interest rates abroad and a somewhat higher ratio of U.S. to foreign interest rates than we've experienced on average in 1987. The lower foreign interest rates will be helpful to those economies while the somewhat higher ratio of U.S. to foreign rates will keep a bit of upward pressure on the dollar compared to the maximum rate of decline that might occur under the pressure of our trade imbalance.

We are expecting that the foreign-currency price of our non-oil imports will be rising at a rate of 3-4 percent over the next two years; if the dollar declines at an average rate of about 5-6 percent per year, this would imply an 8-10 percent rate of increase in the dollar price of our non-oil imports.

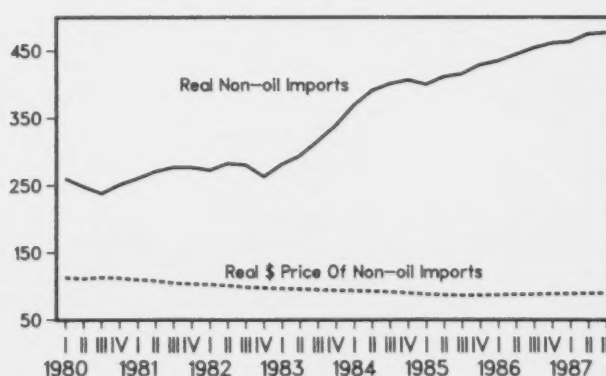
We are not expecting any near-term drop in the U.S. discount rate. The Fed acted quickly to provide liquidity when the stock market dropped and is still doing so. In

CHART 3.**A. Real Exports and Export Prices**

Value

**B. Real Non-oil Imports and Import Prices**

Value



our view, as we have already indicated, the stock market will precipitate only a brief slowdown in economic activity. Further, the sharp year-end drop in the dollar will provide a better net export pattern for 1988 than we would have expected a few months ago. The Fed, we believe, will therefore feel little need to drive down U.S. interest rates to provide further economic stimulus for the domestic economy. Nor is there any apparent inconsistency between the Fed's discount rate and market interest rates. We are therefore holding the discount rate at its current level of 6 percent. We also believe that the Fed will be able to return to a sustainable 5 percent rate of growth for the monetary base in the beginning of next year.

The last of our major input assumptions has to do with oil prices and oil imports. The price of imported oil rose by 37 percent between 1986:3 and 1987:1 and by another 18 percent from 1987:1 to 1987:3. Even after these increases, the price of imported oil was still 30 percent below where it had been in the fourth quarter of 1985. Oil prices have dropped a bit very recently, but we are expecting normal increases of about 4 percent per year over the forecast horizon. We have also assumed that oil imports, which surged when events threatened extreme possibilities in the Persian Gulf, will return to a normal level by the first quarter of next year. This doesn't require an end to the

Iran-Iraq War, but it does require that it remain primarily a local conflict with little more than posturing by the super powers.

We turn now to the forecast for 1988-89 implied by the combination of our assumptions, the initial conditions in the economy, and our econometric model.

Summary of the Forecast for 1988-89

The major macroeconomic indicators derived from our forecast for 1988-89 are shown in Chart 4. We forecast continued economic expansion for the next two years, with real GNP up by 2.9 percent for 1988 and 3.3 percent for 1989. This implies civilian unemployment at a rate averaging 6 percent next year and 5.7 percent the year after. Consumer prices for next year are forecast to be 5.1 percent above this year's level, and for 1989 to be up nearly 6 percent. The interest rate on 3-month treasury bills is forecast to average 5.6 and 5.7 percent for 1988 and 1989 respectively. Consumer purchasing power—real disposable income—is forecast to increase by 1½ to 2 percent annually in the next two years, considerably better than in 1987, while the profit share of GNP is forecast to dip slightly to 6.3 percent for 1988 and then rise to 7 percent for 1989.

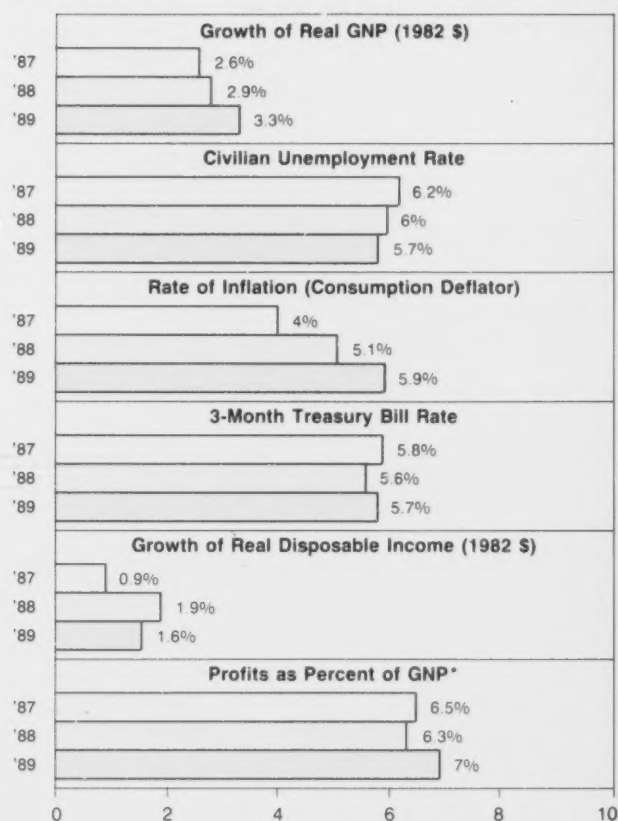
Automobile sales, which are expected to total 10 million units this year, are forecast to be up only slightly to 10.2 million units next year, but to reach 10.7 million units for 1989. We are forecasting a 32 percent import share of car sales for both 1988 and 1989. The import share of the market has been rising steadily in recent years and was in the mid-20 percent range as recently as 1985. Holding at 32 percent for 1988 and 1989, therefore, represents at least a break in the upward trend and favors the domestic industry. Much of this is facilitated by the continued decline in the value of the U.S. dollar. We are forecasting that the average value of the dollar in 1988 will be 10 percent below its 1987 average and that the value of the dollar will be down another five percent the next year.

The next two years are forecast to produce major improvements in our real net export position. We expect a \$56 billion (1982 dollars) positive swing in our real net exports for 1988 and a further improvement of \$36 billion for 1989. These numbers are sufficiently large and important to the outlook for the next two years that they merit closer consideration.

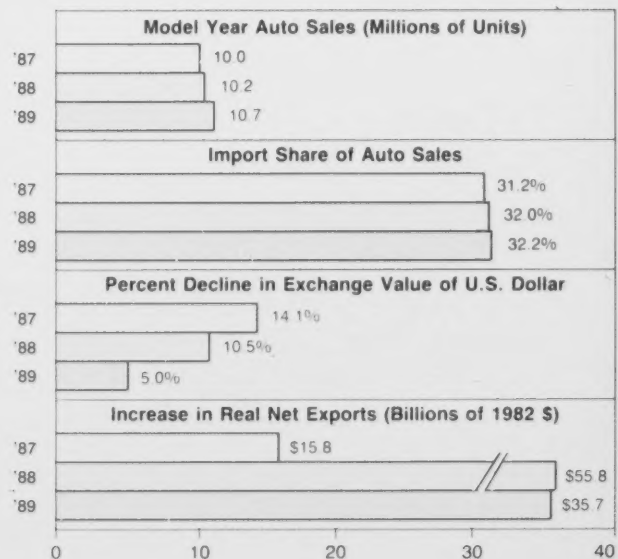
Chart 5 shows the major aspects of the foreign sector scenario in our forecast. The price side of the story is shown in Panel A of the chart. The exchange value of the dollar falls rapidly in the current quarter and then more slowly. The decline is at an annual rate of 7 percent in the first half of next year and moderates to 4.2 percent by the last half of 1989. By the end of 1989 the dollar is forecast to be about 10 percent below where it was at the end of 1980. The foreign currency price of our exports is forecast to decline through mid-1988 and then to begin rising at a rate of only 1 to 2 percent per year. The dollar price of our non-oil imports, on the other hand, is forecast to be rising much more rapidly—at a rate averaging 9 to 10 percent per year for the next two years.

The implications for our trade flows are shown in Panel B of Chart 5. Our real non-oil imports are forecast to peak by the end of this year and to decline at an average annual rate of 2 percent over the next two years. Our real exports, in contrast, are forecast to continue growing, but at a less

CHART 4. Overview of RSQE Forecast for 1988-89



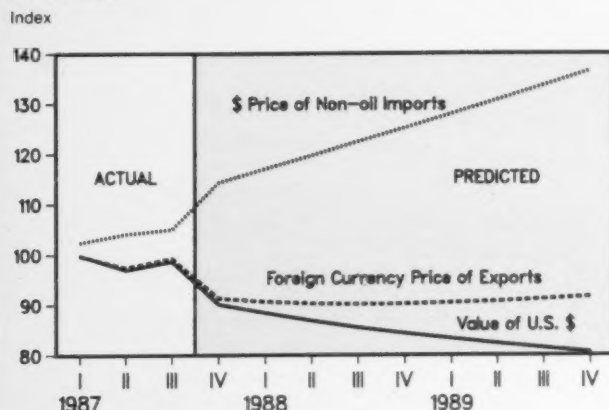
*Includes inventory valuation and capital consumption adjustments.



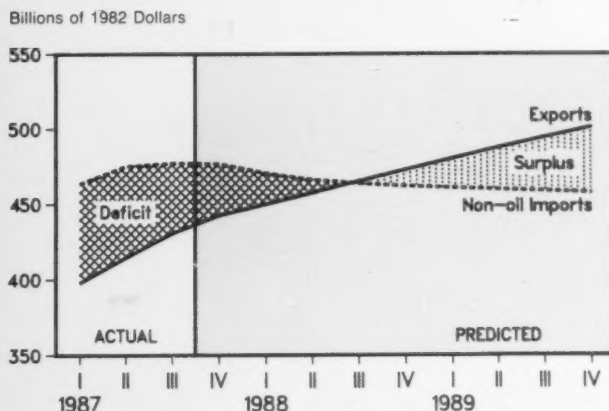
rapid rate than the 9.3 percent that has characterized the past two years. In our forecast, real export growth averages 6½ percent annually between 1987:4 and 1989:4. These trade flow paths imply that our real exports, which are currently \$47 billion less than our real non-oil imports, will catch up with real non-oil imports by the second half

CHART 5. Foreign Sector

A. Prices



B. Foreign Trade (Excluding Oil Imports)



of 1988, and will exceed these imports by more than \$40 billion by the end of 1989. With our real oil imports expected to be at about \$70 billion in 1989, we'll still be in a deficit position on total real net exports two years from now, but only by some \$30 billion, compared with about \$115 billion at the end of this year.

The trade balance under discussion in connection with Charts 4 and 5 is the quantity balance in constant dollar terms. In current dollar terms—which is critically important with respect to conditions on the international exchange market—we are expecting an imbalance at a deficit rate of \$130 billion in 1988:1, \$114 billion in 1988:4, and \$98 billion in 1989:4. We are thus forecasting a slow but steady closing of the dollar gap in our trade position. But even two years from now, the gap will still be large; and, at 10 percent below its late 1980 value, the dollar will still be too strong and will still be falling.

More on the Dynamics of the Forecast

Charts 6–11 provide more detail on the dynamic aspects of our forecast. To summarize briefly:

- The real GNP growth rate is forecast to peak at 3.7 percent in 1988:3 and then to decline to 2.6 percent by the close of 1989.

- The civilian unemployment rate peaks at a 6.1 percent average in 1988:1 and declines slowly to about 5½ percent by the end of 1989.
- The rate of inflation is forecast to rise throughout the next two years, with unit labor cost accelerating and the industrial inflation rate (measured by the deflator for private nonfarm output) up to 5.2 percent by the end of 1989. Consumer prices—reflecting import inflation—are forecast to be rising at a rate of 6.2 percent at the close of 1989.
- Interest rates are forecast to be relatively stable, with 3-month T-bills steady at about 5.7 percent and the corporate Aaa rate slipping very slowly to reach 9.6 percent by the end of 1989.
- The federal deficit is forecast to be on a declining path from 1988:1 through the end of 1989. It reaches an annual rate of \$126 billion in 1989:4 under our assumptions of minimum compliance with the requirements of the GRH deficit reduction legislation. A more aggressive deficit reduction policy might well be desirable, and, should it materialize under a new administration in 1989, it would undoubtedly be accompanied by a more stimulative monetary policy and somewhat lower interest rates.

Table 3 displays the 1988–89 RSQE forecast in substantial additional detail.

Some Final Thoughts on the Outlook

It is never possible to feel completely confident about the assumptions made to generate an economic forecast. That is certainly the case regarding this forecast. This time, in fact, it is all too easy to envision a different set of assumptions which would have substantial and possibly grave implications. If a federal budget impasse throws the international financial markets into real turmoil, we might go through an expectations-induced international recession even though a \$23 billion across-the-board budget cut is, in macroeconomic terms, just about indistinguishable from any agreed upon \$23 billion mixture of spending cuts and revenue increases. That would be tragic, but it's possible.

If international coordination of interest rate policies falls apart, if a sharp decline of the dollar is followed by high interest rates abroad, unfavorable income effects could swamp favorable relative price effects. Our exports would then weaken, our economy would slump, imports would fall even more, and recessions would be transmitted from country to country. Our trade balance might still improve, but much higher unemployment would be a major part of this bad bargain.

These are the kinds of nasty possibilities we've been driven to by seven years of unwise fiscal policies which of necessity produced, on the average, a relatively tight monetary posture with relatively high interest rates and a seriously deteriorating international trade position. There's just no quick and risk-free fix for a situation that's gotten as bad as ours has, and there are all sorts of big and little disasters that can result from further policy errors that are all too easy to make under myopic decision processes being dominated by a few inflexible leaders here and abroad.

We don't much like putting disaster scenarios through econometric models. The models aren't really built to handle them, and they just give back the answers you force

CHART 6. Annual Rate of Growth of Real GNP (1982 dollars)

Percent Change

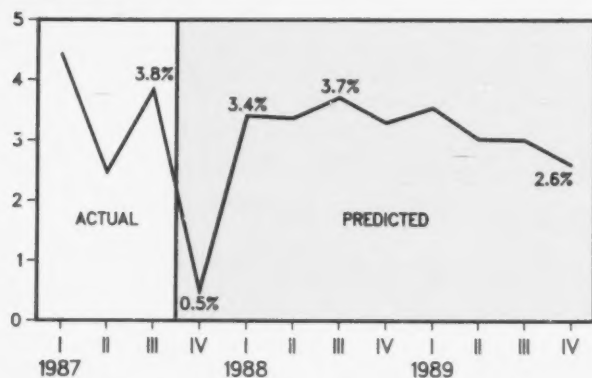


CHART 7. Civilian Unemployment Rate

Percent

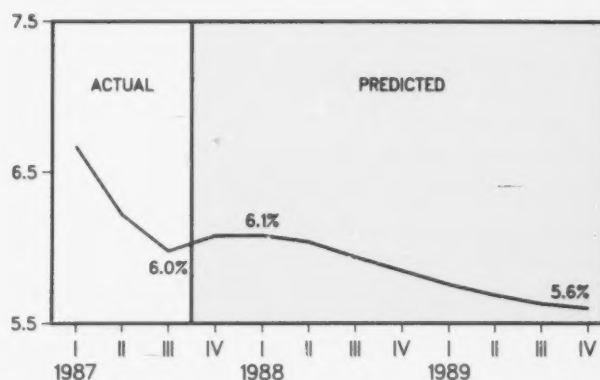


CHART 8. Inflation (Private Nonfarm Sector)

Percent Change

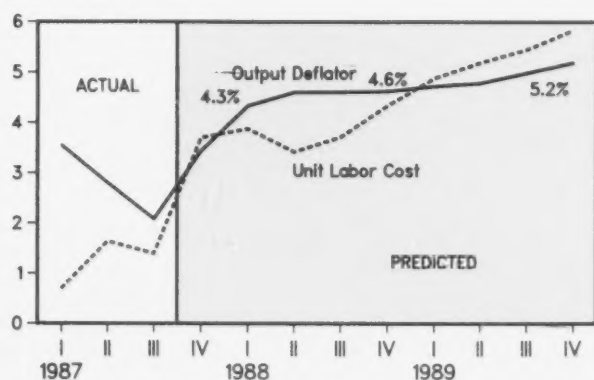


CHART 9. Inflation (Imports and Consumption)

Percent Change

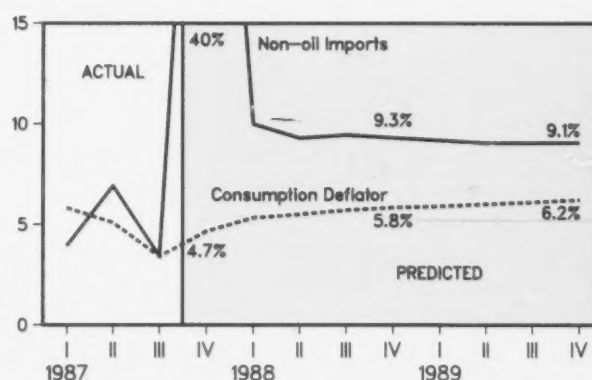


CHART 10. Interest Rates

Percent

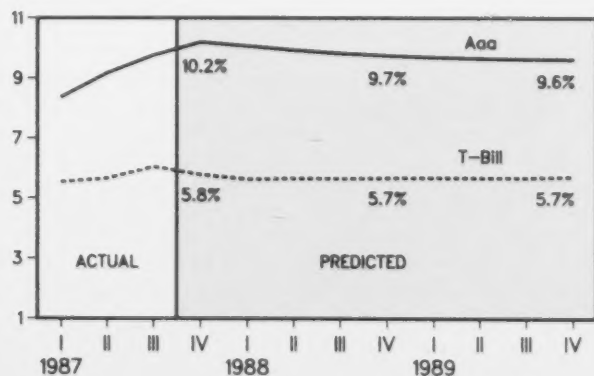


CHART 11. Federal Government Deficit, Amount and Percent of GNP

Billions of Dollars

Percent

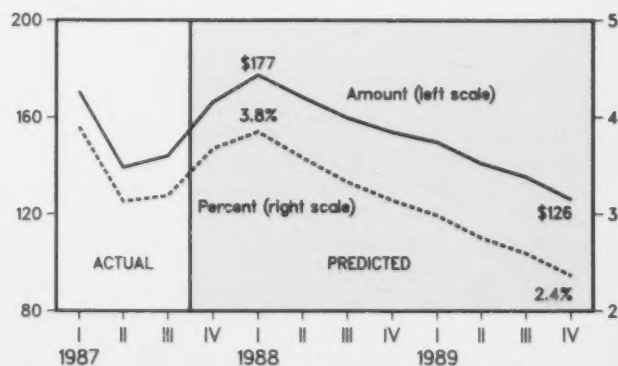


TABLE 3. Selected Economic Indicators as Forecast by RSQE, November 1987

Seasonally adjusted data, billions of current dollars unless otherwise indicated

ECONOMIC INDICATORS	Quarterly Data										Annual Data				
	ACT.										PROJECTED				
	87:3	87:4	88:1	88:2	88:3	88:4	89:1	89:2	89:3	89:4	1988	1989	% Changes	87-88	88-89
GROSS NATIONAL PRODUCT	4,512	4,523	4,608	4,700	4,799	4,898	5,007	5,110	5,217	5,324	4,751	5,165	6.42	8.70	
PERSONAL CONSUMPTION EXPENDITURES	3,004	3,018	3,088	3,146	3,208	3,270	3,339	3,404	3,475	3,544	3,178	3,440	7.18	8.27	
DURABLE GOODS	432.6	408.1	424.0	430.7	439.8	445.5	454.4	461.7	470.7	478.2	435.0	466.2	5.71	7.19	
AUTOMOBILES and PARTS	210.6	185.1	197.9	201.6	207.8	210.4	216.0	220.1	226.0	230.3	204.4	223.1	7.18	9.12	
FURNITURE and H.H. EQUIPMENT	147.7	147.8	149.3	151.0	152.7	154.4	156.4	158.1	160.0	161.7	151.8	159.0	3.38	4.75	
OTHER DURABLES	74.3	75.2	76.8	78.1	79.3	80.6	82.1	83.4	84.8	86.2	78.7	84.1	6.54	6.87	
NONDURABLE GOODS	988.1	999.7	1,019	1,036	1,054	1,073	1,093	1,112	1,132	1,152	1,046	1,122	6.15	7.33	
SERVICES	1,583	1,610	1,645	1,679	1,714	1,752	1,791	1,831	1,872	1,914	1,697	1,852	8.21	9.12	
GROSS PRIVATE DOMESTIC INVESTMENT	696.6	704.2	692.7	708.3	728.4	748.0	766.5	785.5	804.0	822.2	719.4	794.5	2.65	10.45	
NONRESIDENTIAL	452.8	441.6	444.8	448.0	454.9	462.4	471.7	481.4	491.6	501.5	452.5	486.6	3.33	7.52	
RESIDENTIAL STRUCTURES	228.3	226.7	227.0	232.0	238.6	247.2	255.1	262.6	270.3	278.0	236.2	266.5	4.04	12.83	
CHANGE in BUSINESS INVENTORIES	15.5	35.9	20.9	28.3	35.0	38.5	39.6	41.5	42.0	42.7	30.7	41.5	--	--	
NET EXPORTS	-122	-142	-130	-123	-118	-114	-110	-106	-102	-98.2	-121	-104	--	--	
EXPORTS	433.4	448.4	461.2	475.5	490.4	505.7	521.3	537.1	553.3	569.8	483.2	545.4	13.99	12.87	
IMPORTS	555.1	590.4	591.0	598.6	608.7	619.8	631.5	643.4	655.6	668.0	604.5	649.6	10.42	7.46	
GOVERNMENT PURCHASES	933.5	943.0	957.7	969.1	980.6	994.5	1,012	1,027	1,041	1,055	975.5	1,034	5.75	5.98	
FEDERAL	384.6	384.7	389.9	391.6	393.3	397.2	404.7	408.6	412.5	416.3	393.0	410.5	3.71	4.46	
NATIONAL DEFENSE	296.0	297.7	301.4	302.6	303.8	307.1	313.0	316.3	319.6	322.8	303.7	317.9	3.33	4.68	
NONDEFENSE	88.6	87.0	88.5	89.0	89.5	90.1	91.7	92.3	92.9	93.5	89.3	92.6	5.00	3.72	
STATE and LOCAL	548.9	558.3	567.8	577.5	587.3	597.3	607.5	617.9	628.4	639.2	582.5	623.3	7.17	7.00	
GROSS NATIONAL PRODUCT DEFATOR, 1982 = 100	117.8	117.9	119.1	120.5	121.9	123.4	125.1	126.7	128.4	130.2	121.3	127.6	3.44	5.25	
REAL GROSS NATIONAL PRODUCT (billions of 1982 dollars)	3,831	3,836	3,868	3,900	3,936	3,968	4,003	4,033	4,063	4,089	3,918	4,047	2.88	3.28	
CIVILIAN UNEMPLOYMENT RATE (percent)	5.98	6.08	6.08	6.04	5.94	5.85	5.76	5.69	5.63	5.60	5.98	5.67	--	--	
CORPORATE PROFITS plus IVA and CCA	300.0	269.6	269.1	287.1	309.4	323.8	341.1	355.2	368.2	380.2	297.3	361.2	2.49	21.47	
3-MONTH TREASURY BILL RATE (%)	6.04	5.78	5.63	5.66	5.65	5.67	5.68	5.68	5.68	5.72	5.65	5.69	--	--	
REAL DISPOSABLE PERSONAL INCOME (billions of 1982 dollars)	2,676	2,683	2,710	2,717	2,725	2,733	2,751	2,759	2,769	2,776	2,721	2,764	1.93	1.56	
PERSONAL SAVING RATE (percent of disposable income)	3.00	3.81	3.88	3.63	3.36	3.23	3.26	3.06	2.90	2.70	3.52	2.98	--	--	

Sources: Projections by Research Seminar in Quantitative Economics, University of Michigan; actual data from Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

into them. But it doesn't require an explicit model to know what can go wrong, and it's easy enough to see what is required to avoid worst-case outcomes. We hope the actions of the next several months are those which we truly regard as the most likely. They don't require all that much bravery, only reasonably enlightened self-interest.

December 1987 Update of the Forecast

The December update, produced about a month after the forecast detailed above, was generally consistent with the November forecast but slightly less optimistic. For example, real GNP was projected to be \$3,903 billion in 1988 and \$4,028 billion in 1989, 15 to 20 billion 1982-dollars less than the November projection; and the civilian unemployment rate was expected to be 1/10 of a point higher in both years.

Real GNP was forecast to grow at an average annualized rate of about 2 percent during the first half of 1988 and then to accelerate to a 3½ percent growth rate during the second half of the year. From the end of 1988 through the end of 1989, real GNP was forecast to increase by 3 percent. The civilian unemployment rate was expected to decline gradually from an average of 6.1 percent for the first half of 1988 to 5¼ percent for the final quarter of 1989.

A key assumption of the December update was that much of the deficit-reduction package negotiated between Congress and the administration will in fact be implemented. Projected federal budget savings were \$23.4 billion for fiscal 1988 and \$42.4 billion for fiscal 1989, with associated budget deficits of \$165 billion and \$142 billion. Monetary policy assumptions were basically unchanged from those in the November forecast.

On Causes and Consequences of Financial Instability

Victor Zarnowitz
Professor of Economics and Finance
The University of Chicago

How and Why Did It Happen?

In the two years before its peak on August 25, the Standard & Poor's index of 500 common stocks gained about 75%. During the same period, real GNP rose less than 6% as the aging expansion produced several quarters of low annual growth rates in the 0.6-2.5% range. Corporate profits after taxes with inventory valuation and capital consumption adjustments actually declined substantially, by nearly 20% in current and 25% in constant dollars. Real investment in plant and equipment retreated somewhat from its most recent peak reached late in 1985. When the downward drift of interest rates in 1985-86 gave way to steep rises in 1987, the outlook for a continuing bull market worsened. Eventually, it all came to depend on the promise of a strong expansion in profits. But this would have required an upsurge in net exports, industrial production, and business investment that was not in sight, although the reports on the state of the economy in the summer were predominantly good.

In an unprecedented single-day crash on October 19, the Dow Jones index of 30 industrials dropped almost 23%. Stock prices promptly plunged on markets around the world to levels near or below those at the close of 1986. Unusually large and visibly intercorrelated daily fluctuations spread through all major exchanges, indicating great uncertainty and international transmission of both signal and noise. Since then the volatility has diminished and some of the lost ground has been recovered, but not enough to dispel fears that the trouble may resume. To the general public, the sudden slump in stocks was an unexpected and severe shock. Unless new positive surprises follow and the conditions improve very quickly, investor confidence is likely to take some time to recover.

Precisely why the crash occurred when it did may never be known: no single event qualifies as an evident and immediate cause. Money growth turned down steeply this year, yet the Federal Reserve seemed to signal further tightening by raising its discount rate. When interest rates rose after the G-7 parley in late September, bearish sentiments probably increased on the theory that the Fed had decided to support the dollar even at the risk of a recession. This may well have contributed significantly to the initial market decline, but it could hardly account for the timing and intensity of the collapse that followed. Technical factors, including the market-making capacity and computerized trading programs, are blamed by some for magnifying or accelerating the stocks' plunge, but their role is as yet not well understood.

There is a substantial consensus that the persistence of large budget and trade deficits has seriously adverse cumulative effects, and that the government can no longer defer credible actions to reduce the problem. Many economists have long warned about the dangers involved, and now the media, market commentators, and public opinion link the financial turmoil of recent weeks directly to the deeply unbalanced federal budget. These perceptions are important in their own right, apart from the objective assessment of the role of the twin deficits. Still, one needs to recognize that there was nothing new about the big deficits, and no sudden deteriora-

tion in the figures, before the crash; also, that the fall in stock prices was worldwide and sharp everywhere.

It is difficult, then, to avoid the conclusion that the boom in stocks overshot hugely, feeding on its own "noise" as traders tried to outguess what others were about to do and get there sooner. Economic history shows a long irregular sequence of speculative "bubbles" in which a cumulative, sometimes explosive rise in certain asset prices is followed by a sudden decline. Some plausible explanations of such phenomena are suggested by recent theoretical and experimental studies. Bull markets continually attract highly optimistic speculators and new entrants, and the expectations of these very active participants can be contagious and self-fulfilling over considerable stretches of time. Overshooting on the upside can induce overshooting on the downside. The decline has been much faster than the rise, but such asymmetries are not uncommon. A compression of so much movement in so little time is rare but not without precedent for asset prices in speculative markets. The October debacle conforms to the model of a massive and self-propelling but brief selling panic.

In more general terms, deviations of asset prices from their fundamental values can and do show a high degree of persistence. Although excessively high or low price expectations will not prevail indefinitely, their adjustment to economic realities is delayed and distorted when the bulk of market transactions reflects the convergent search for high returns by high-risk short-term "noise traders." Another hypothesis, recently ascendant but complex and still undeveloped and untested, derives from the new mathematical "chaos" theory using tools of nonlinear dynamics. Here the purely accidental is de-emphasized, but the workings of the economic causes and effects in the markets are obscured by frequent discontinuities of prices as they leap on encountering threshold values that mark transitions to different behavioral regimes. Theorizing along these lines has led some to contemplate the possibility that the increasing speed of information flows and decisions to buy and sell across globally interconnected computerized networks may increase the volatility of prices and reduce the efficiency of arbitrage and hedging techniques used as financial market safeguards.

Was the recent crash an episode in a random disjointed bubble? Or is it a portent of a macroeconomic downturn? The past is far from a reliable guide in a financially and economically fast-changing world. Still, placing the events in a historical perspective may help provide some clues for the highly uncertain future.

Stock Market Declines and Business Recessions

The National Bureau of Economic Research (NBER) distinguishes 26 business cycles in the United States since 1873, which consist of equal numbers of expansions and contractions. Only three of the latter were *not* accompanied by a substantial decline in stock prices (the mild, indeed marginal, recession of 1926-27, the short one in the first half of 1980, and the 1945 episode related to the end of World

War II). As the individual leading indicators go, missing six out of 52 business cycle turns, or 12%, deserves a good rating (see Table 1, lines 1, 3, and 4).

If the probability of skipping a recession is relatively small, however, the probability of falsely predicting one appears to be rather high for stock prices in recent times (lines 2, 3, and 5). Of twelve significant declines in the Standard & Poors index during the last forty years, five were "extra" movements not associated with business contractions. Interestingly, the conformity to business cycles of the S&P index, as measured by both "types of error," was excellent in 1873-1919, much worse in 1920-45 and 1946-86 (that is, in the era of the Federal Reserve System and, later, the increased size and role of the government and its fiscal operations). Stock prices, though among the best-performing leading series, are clearly inferior to the composite index of such series with respect to cyclical conformity and consistency of early timing.

It is important to note, however, that the extra declines in stock prices tended to be relatively short or shallow or peculiarly timed (1946, 1966, 1977, 1983-84). Only one, in 1962, was steep as well as brief. (The bear markets in 1962 and 1966 were related to business slowdowns; the others were not.) None included very large and rapid declines of the type that occurred on several days last October (and in October 1929). A loss of about 30%, such as occurred in less than three months after the August 1987 peak, is very large relative to the averaged amplitudes of complete stock price contractions. This can be seen clearly from the total and per-month amplitude measures listed at the bottom of Table 1.

The S&P index led on the average by 9 and 5 months at peaks and troughs of the post-1945 business cycles, respectively. In earlier periods, the leads tended to be shorter at peaks, longer at troughs, and generally more dispersed (cf. lines 6-14).

TABLE 1. Cyclical Conformity, Timing, and Amplitudes of Common Stock Prices, 1873-1986

Cycle Statistics	Period ^a			
	1873-1919	1920-1945	1946-1986	1873-1986
	<i>Number</i>			
1. Business cycle (B.C.) turns covered ^b	24	12	16	52
2. Stock price (S.P.) turns covered ^c	24	10	24	58
3. B.C. and S.P. turns matched ^d	24	8	14	46
	<i>Percent</i>			
4. B.C. turns skipped ^e	0	33	13	12
5. Extra S.P. turns ^f	0	20	42	21
	<i>Lead (-) or Lag (+), in months^g</i>			
6. At B.C. peaks: Mean	-5.8	-2.5	-9.0	-6.2
7. At B.C. peaks: Standard deviation	6.9	2.9	2.9	5.7
8. At B.C. troughs: Mean	-6.8	-4.8	-4.6	-5.8
9. At B.C. troughs: Standard deviation	8.6	5.1	1.6	6.5
10. At all B.C. turns: Range	+9/-21	+1/-9	-5/-13	+9/-21
	<i>Percent^h</i>			
11. At B.C. peaks: All leads	83	75	100	87
12. At B.C. peaks: Long leads	33	25	86	48
13. At B.C. troughs: All leads	75	75	100	83
14. At B.C. troughs: Long leads	50	50	14	39
	<i>Percent changeⁱ</i>			
15. S.P. expansion amplitudes: Mean	48	119	58	74
16. S.P. expansion amplitudes: Per month	1.8	3.8	2.1	2.3
17. S.P. contraction amplitudes: Mean	-26	-40	-18	-25
18. S.P. contraction amplitudes: Per month	-2.1	-2.0	-2.1	-2.1

^aRefers to count of cyclical turning points in the Standard & Poors monthly index of common stock prices. The index for 1871-1917, compiled by the Cowles Commission and S&P, includes virtually all industrial, public utility, and railroad common stocks traded on the New York Stock Exchange. The index for 1918-56, a monthly average of S&P weekly index, has a coverage increasing from 198 to 480 stocks. The S&P index of 500 common stocks is used for 1957-86.

^bAs dated by the National Bureau of Economic Research (NBER). Each entry includes an equal number of business cycle peaks and business cycle troughs.

^cSpecific cycle turns in the S&P index. Based on a review of the data and chronologies in O. Morgenstern, *International Financial Transactions and Business Cycles*, Princeton University Press for NBER, 1959, chapter X; G.H. Moore, *Business Cycles, Inflation, and Forecasting*, 2nd ed., Ballinger Publishing Co. for NBER, 1983, chapter 9; and *Business Conditions Digest* (BDC), April 1987, p. 105. Each entry includes an equal number of peaks and troughs.

^dBusiness cycle turns matched by like turns in the S&P index.

^eEquals the difference, line 1 - line 3, expressed as percent of the corresponding entry in line 1.

^fEquals the difference, line 2 - line 3, expressed as percent of the corresponding entry in line 2.

^gBased on all timing observations at matched B.C. and S.P. turns (see line 3 for the numbers, which are evenly divided between peaks and troughs). The leads and lags are measured from the peaks (troughs) in the S&P index to the corresponding business cycle peaks (troughs).

^hShares of leads or long leads of stock prices in the samples of timing observations referred to in note g. Long leads equal or exceed 6 months.

ⁱBased on trough-to-peak changes of specific-cycle expansions ("bull markets") and peak-to-trough changes of specific contractions ("bear markets") in the S&P index series. Lines 15 and 17: means of the total percentage amplitudes. Lines 16 and 18: means of the percent changes per month (total amplitudes divided by the corresponding durations in months).

Stock prices reflect profit expectations and are positively related to such other leading indicators as new investment commitments (capital appropriations, new orders and contracts), corporate earning rates and margins, and cash flows; they are negatively related to interest rates, which usually climb in late expansion stages. Also, market swings themselves affect expectations as well as wealth of investors, consumers, and businessmen. All of this helps explain why business cycle peaks and troughs are as a rule anticipated by like turns in these swings. Certainly not all turning points in common stock prices signal correctly business recessions and recoveries, but those which do not are usually associated with smaller movements than those which do. These results, then, suggest that large market downturns, unless soon reversed (which is not a frequent occurrence), ought to be taken seriously as a warning that the economy may weaken in the near future.

Policy Reactions

It is evident that the Fed did in fact promptly recognize the October 16-19 plunge in stock prices as a danger signal. Its statement of readiness to supply the financial system with the required liquidity was accompanied by a sharp turnaround in U.S. monetary policy from tightness to ease. Banks received large injections of reserves, and interest rates on federal funds, Treasury bills, and long-term bonds fell substantially. During the month following the intervention (by November 20), bill rates dropped approximately one percentage point and 30-year government bond yields $1\frac{1}{2}\%$, to levels of 6% and 8.9%, respectively.

The shift to accelerated money growth was generally applauded on the grounds that it would counteract the development of a financial crisis. In the past, such crises involved various restrictions on, and liquidations of, credit, disruption of financing patterns, and sudden surges in the demand for money associated with rising interest rates ("scramble for liquidity"). These events accompanied or aggravated some of the business cycle downturns.

Most theories of financial crises center on credit markets and particularly the role of banks. During periods of rising prosperity, business and consumer debts rise relative to income but so do assets and profits. When growth weakens and profits decline, or market losses are incurred, the dependence on outside credit rises. But it is precisely at such times that banks suffer actual and prospective losses on their loans and tighten their lending. Some of their customers, particularly the smaller and newer ones, will have to retrench, and some, unable to raise enough cash or refinance debts, will fail. Unless the central bank comes to their rescue, some of the banks will fail as well.

In fact, all the early financial crises were marked by failures of banks and runs on banks, at times culminating in suspension of convertibility of deposits into currency (1873, 1884, 1890, 1893, 1907). The Federal Reserve failed to prevent severe banking crises in 1930, 1931, and 1933 (the last one a panic ended by the banking holiday). The federal insurance of deposits (FDIC, effective since 1934) prevented wide runs on banks in later years. Still, several much milder but troublesome "credit crunches" continued to occur, with widespread financial difficulties and some large business and bank failures (1966, 1970, 1974, 1980, 1982). In each of these recent episodes, the financial crisis followed the business cycle peak (or, in 1966, the onset of a "growth-cycle" slowdown) and was resolved by the Fed's lender-of-last resort operations.

Now the important point here is that the stock market plunge of 1987 definitely does not qualify as a "financial crisis" comparable to the above. Even if a downturn in stock prices antedates a credit crunch, the former does not necessarily cause the latter. A crisis requires that strong and urgent demand for credit, much of it due to financial distress, confront a tight supply. Such conditions could yet develop, but they certainly are not in the cards at the present time. Indeed, the easing of monetary policy should work directly against a scenario of this kind.

A compromise proposal sketched out by the Reagan administration and congressional negotiators on November 20 opens up a possibility that the budget deficit may be reduced by \$30 billion in the year ahead and \$45 billion in the following year. It has not much impressed the domestic and foreign media and spokesmen for business and finance, except perhaps as a sign that an agreement between the parties is at all possible in the prevailing highly politicized climate. Clearly, a fiscal policy of some minimum foresight and balance of consistency and flexibility has been simply lacking for a long time now. It is not going to be found soon. This may not be altogether bad because bold moves to cut spending and, particularly, raise taxes could easily prove to be the wrong medicine for the economy today. This applies to any action that would seriously hurt real expenditures, for consumption, investment, or both.

The threat of a recession and further market difficulties is international, and so are the main policy problems. About the worst that could happen is outright protectionist action or legislation, a rapid drop of the dollar, and a rush of competitive devaluations. For best results, a recognizably firm commitment to a gradual multi-year reduction of the structural budget deficit in the U.S. should be combined with cautiously stimulative policies in Europe and Japan (all of which, of course, is much easier said than done.)

New Forecasts

Table 2 compares the results of the pre- and post-crash surveys of 30 forecasters representing large industrial corporations, banks, consulting firms, academic research, and other institutions. These forecasters participate regularly in *Economic Forecasts: A Worldwide Survey*, a monthly journal published since 1984 by Elsevier Science Publishers (North-Holland). Only group averages are shown here, but the journal provides all detail identified for each of the sources.

The table shows substantial downward revisions of forecasts for all of the eleven variables covered, except real net exports, which remained essentially unchanged between the early October and the early November surveys. (The unemployment rate figures have been raised a little.) The predictions that have been slashed most often refer to the current and next two quarters. Thus forecasters on the average expect real GNP to grow but slowly in 1987:4 (1.6%) and the first two quarters of 1988 (0.9% and 1.6%), while the second half of 1988 should show an improvement to about 2.4% (all figures at annual rates). Particularly large downward revisions can be seen in the forecasts for corporate profits, industrial production, and (partly) real business investment. Housing starts are expected to decline by somewhat larger percentage amounts. But inflation and interest rate forecasts have been lowered, too.

The individual forecasts behind these averages are highly diverse. Only three forecasters clearly predicted a recession next year, but many of the real growth forecasts for the near future are so low (less than 1%) as to suggest a serious risk that the economy may slip and decline. About three quarters of the sample agree that the downturn in the stock market significantly raised the probability of a recession in 1988. But

there are a few relative optimists who projected growth rates exceeding 3% in 1987-88.

The next several months will produce critical readings on the leading and other economic indicators, which should greatly reduce the exceptionally high uncertainty now prevailing.

November 1987

TABLE 2. Average Forecasts from Surveys Taken in October and November 1987

Indicator	Average, Four Quarters, 1987:4 through 1988:3		Year-to-Year Change 1987/88	
	November	October	November	October
	<i>Percent change, annual rate</i>			
Gross national product (GNP)	5.3	7.2	5.4	7.1
GNP implicit price deflator	3.6	4.2	3.5	4.1
GNP in 1982 dollars	1.6	2.8	1.9	2.8
Corporate profits after taxes	3.3	10.9	2.2	11.2
Industrial production index	1.2	4.0	2.0	4.0
New housing starts	-3.8	-2.4	-6.4	-5.9
Nonresidential fixed investment, 1982 dollars	1.3	4.6	4.3	5.0
	<i>Levels</i>			
Unemployment rate (%)	6.1	6.0	6.2	5.9
Treasury bill rate, 3 months (%)	5.8	6.7	5.9	6.9
Change in business inventories, 1982 dollars	16.9	20.7	14.7	21.0
Net exports, 1982 dollars	-110	-109	-104	-104

Source: *Economic Forecasts: A Worldwide Survey*, vol. 4, no. 11, November 1987. Elsevier Science Publishers (North-Holland).

Stock Prices and Consumer Spending: an Appraisal of the Great Crash

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Introduction

Ever since the unprecedented drop of 500+ points in the Dow Jones averages on October 19, the public has been deluged with analyses of the causes and consequences of that unique historical event. We may never discover exactly what caused so sharp a decline, since that would require being able to untangle the role of program trading, herd instinct in the market, speculation in equities during the months prior to the crash, and the inexperience of many Wall Street money managers who had never seen a sharp decline in stock prices. All that says nothing about the role of more fundamental factors—the twin deficits relating to the federal budget and international trade, the concerns of foreign investors about the value of the dollar and the risk of owning U.S. assets, the rise in interest rates during the preceding months, and the uncertainties about the policies to be followed by a new chairman of the Federal Reserve Board, to cite just the leading candidates.

From the point of view of economic forecasting, it may not be so important to be able to settle the question of why stock prices declined so sharply. But it is clearly crucial to be able to say what the consequences of that decline are likely to be, and when they will be felt in the economy.

Wealth Effects

By far the most widely used model for interpreting the consequences of the stock price decline on the demand for goods and services in the economy relies on the notion that consumer wealth is an important determinant of consumer spending. The most popular such model is the "life-cycle" model, which specifies that consumers plan their spending with an eye to the lifetime constraints of earnings during their working lifetimes. During active working years, consumers accumulate assets by saving part of their income, and these accumulated assets then finance consumption during old age, when earnings first decline and then reach

zero on complete retirement. Whether all assets are used up in this way depends on whether consumers plan to make bequests and/or on whether they maintain assets as a hedge against unpredictable events—e.g., living longer than one might normally expect, having to pay heavy medical bills for oneself or one's family, etc.

In any event, such models predict significant consequences for consumer spending if consumer assets take a sharp and unexpected decline, as clearly must have happened when stock prices declined over 500 points in one day and roughly 1000 points over a period of several months. One well-known such model predicts somewhere between a 3 and 6 cent decline in consumer spending for every dollar decline in consumer assets. Since the decline in stock prices over the period of several months wiped out about a trillion dollars of wealth owned either directly (by way of direct holdings of common stock) or indirectly (by way of pension funds or similar institutional interests), the implication is a decline in consumer spending of the order of 30 to 60 billion dollars—a relatively large bite in the market for consumer goods and services.

Whether highly aggregated models of this sort capture the essential features of consumer response to sharp declines in stock prices is hard to tell from the available data, although there is certainly considerable support for that view. Without prejudging that issue, it is nonetheless useful to take a more micro-oriented look at the likely channels of influence, paying particular attention to the distribution of stock ownership among the population, the different forms of ownership rights that consumers have, and the likely consequences for spending behavior among consumers.

Direct Ownership

The best data we have on the distribution of direct ownership of common stock among consumers is the 1983 Survey of Consumer Finances, sponsored by the Federal Reserve Board and other public agencies and conducted by the Survey Research Center at The University of Michigan. Although 1983 is not 1987, the broad patterns of ownership do not change that much, and a good deal can be learned by examining some of these data.

Table 1 below shows the fraction of households that own common stock in various size categories (Panel A), the average amount of common stock owned by consumers in various net worth size categories (Panel B), and the average amount of common stock holdings for consumers in various income categories (Panel C). These are the basic data outlining the distribution of direct holdings of common stock among American households. The item at the bottom of the panels indicates the degree of concentration, measured by the proportion of total common stock owned by households in the various open-end categories, i.e., over half a million dollars of common stock holdings, over half a million of total net worth, and over \$192,000 of annual income.

These data are illuminating. First, about 80 percent of American households have no direct holdings of common stock at all, thus could not be affected directly by a decline in holdings of common stock; second, only about 1.7 percent of U.S. households have more than \$100,000 worth of direct common stock holdings, and thus might have had very large absolute declines in the dollar value of their wealth; third, about 80 percent of all direct holdings of

TABLE 1. Distribution of Direct Holdings of Common Stock and Mutual Fund Shares among U.S. Households, 1983

A. Proportion of Households Owning Indicated Amounts of Stock		B. Average Value of Stock Held by Households in Net Worth Categories		C. Average Value of Stock Held by Households in Income Categories	
Size Category	Percent of Households	Net Worth Category	Average Stock Amount (Dollars)	Income Category	Average Stock Amount* (Dollars)
Zero	79.7	Zero or less	26	Less than \$10,800	400
\$1-4,999	10.1	\$1-4,999	177	\$10,800-23,999	2,300
\$5,000-9,999	3.0	\$5,000-9,999	123	\$24,000-47,999	5,700
\$10,000-24,999	2.7	\$10,000-24,999	364	\$48,000-95,999	26,800
\$25,000-49,999	1.6	\$25,000-49,999	737	\$96,000-191,999	171,400
\$50,000-99,999	1.3	\$50,000-99,999	1,505	\$192,000 or more	816,800
\$100,000-249,999	0.8	\$100,000-249,999	6,596		
\$250,000-499,999	0.5	\$250,000-499,999	20,972		
\$500,000 or more	0.4	\$500,000 or more	267,365		
ALL	100.0	ALL	12,587	ALL	14,400
Percent of Total in Open-end Class	54		80		48

*Includes IRAs and Keogh accounts.

common stock are owned by households with more than half a million dollars of net worth (a group comprising less than 4 percent of U.S. households); and fourth, almost half of the common stock owned directly by U.S. households is held by those with 1983 incomes of more than \$192,000 annually, and almost two-thirds is owned by households with more than \$96,000 of annual income in 1983— income groups which together comprise about 2.4 percent of total households in the U.S.

The bottom line from this brief description of the distribution of direct common stock holdings among the U.S. population is that the great bulk of common stock is owned by households with either or both very large amounts of net worth and very large amounts of income, and for the most part, U.S. households have either no direct common stock holdings or amounts which are small relative to either their income or their net worth. If one is going to find important direct effect of wealth declines on spending, it will have to be in the spending of a small number of relatively wealthy households. A quantitatively large effect coming from this source seems implausible to this writer, although some effect is certainly possible.

Indirect Ownership

A substantial amount of common stock is held by pension funds, and the distribution of rights to those pension funds is much more broadly spread than the distribution of direct common stock ownership just described. Hence, one might well expect to find larger impacts of wealth declines on spending that work through the influence of wealth declines on pension rights. In 1983, for example, the combination of pension fund reserves and life insurance reserves contained about as many assets as the total direct ownership of corporate equities among households—both being about \$1.5 trillion. In 1987, roughly the same ratio presumably pertained. Thus there is a large potential channel of influence working through consumer ownership of equity in pension funds and life insurance reserves, which could be affected by sharp declines in equity values.

However, the institutional arrangements that are common for most pension funds are not consistent with any large direct influence operating through consumer wealth. About 85 percent of the total pension fund assets in the U.S. are owned by "defined benefit" pension funds or the equivalent. In the typical defined benefit pension fund, the employee has the right to a future income, usually based on years of experience with the firm and average salary over the last few years of service. The firm that sets up the pension fund has the obligation to make sure that the fund has enough assets to meet those claims. But if the pension fund is invested in common stock and if common stock prices decline sharply, those movements have no effect at all on the future rights of employees to retirement income unless the stock price decline is sharp enough to cause the fund to become insolvent.

Thus it is the firm that garners the benefits of rising equity prices in such a pension plan, and the firm that has to pay the cost of declining equity prices: The employee's rights, except for insolvency or bankruptcy, are largely unaffected. (I say largely, rather than totally, simply because a pension fund that has benefited from sharp increases in stock prices may well be more generous with retroactive increases in the actual pensions paid to

employees, even though there is no legal requirement to do so. For example, a firm with a lush pension fund may provide cost-of-living adjustments to its employees currently drawing pensions, while one with a less prosperous fund might not do so.)

The upshot is that a wealth effect operating through pension funds is largely absent for households, and applies at most to those households who have "defined contribution" pension funds where they own a pool of assets that are typically portable. Even there, since those assets are sequestered for use until after retirement, households where a good deal of time must pass between now and retirement might not give much weight to swings in equity values, in terms of their perceived needs to save for retirement. All in all, my assessment is that the direct wealth effect of even a very large decline in stock prices is not likely to be a source of major influence on consumption spending.

Indirect Effects

While the direct effects might be small, there is reason to suppose that there may be significant indirect effects. The way that could happen is if consumers perceived that a decline in stock prices such as occurred in October of last year signaled that there was major trouble with the economy and constituted good reason to rethink the likely short- and long-term vigor of the economy, with its implications for job security, overtime hours, and pay increments. Why should that be so?

One way to frame the argument is to suppose that consumers have a mental model about how the economy operates, into which they fit various pieces of information as they become available. Thus consumers know that price inflation is bad for the economy, since they have so much past experience suggesting that the economy weakens whenever there is substantial price inflation. Thus they will observe a jump in price inflation, feed that into their information processing mechanism, and emerge with the conclusion that the economy is likely to be weaker, and their economic future therefore less secure; hence there is some reason to become cautious in spending decisions. The sharp increase in oil prices in 1973 caused by the OPEC cartel caused a substantial reaction among consumers, but it fitted into the pattern of recognizing the links between price inflation and the future vigor and strength of the economy.

What about events like the stock price decline of October 19? Such an event cannot be comfortably fitted into consumers' existing mental models of how the economy operates. While there must be some reason why stock prices declined so sharply, one would not be very comforted by listening to the various explanations offered by the experts in the aftermath of the stock price decline. Consumers must have had a hard time trying to figure out how to interpret that signal, but many consumers must have come away with the notion that the economy was less well understood by the experts than they had previously thought, and that it would be very hard to tell just what the consequences would be in the future.

If an event is observed that cannot be fitted into existing models, it seems likely that caution will be induced. As a minimum, some consumers would probably "wait and see" if this unique event would be followed by other events that could be more easily fitted into mental models. But of

course waiting and seeing is equivalent to a decline in the rate of spending on consumption, since all that is needed for consumption to decline is that consumers postpone spending decisions. In particular, one would expect consumers to postpone decisions about major expenditures that could be deferred for a few months or a few quarters until it became clear just what economic prospects looked like.

As the article by Richard Curtin in this issue points out, that appears to be precisely what happened in the household sector. The Index of Consumer Sentiment declined sharply in the aftermath of the stock price decline, with most of the decline centered in consumer expectations about future business conditions. In November, the Index continued to be at the sharply lower post-crash level, although the impact across various components of optimism was somewhat more uniform—still a significant impact on expectations about the economy, but now some impact on personal financial expectations. There was then some bounce-back in December, although not much, and what will happen in future months is yet to be seen.

Conclusions

What does all this add up to? First, it is hard to make anything positive out of the data relating to consumer responses to the stock price decline: It has to hurt consumption, and the only question is how much. Second, there does not at this writing appear to have been any cumulative consequences of the price break in equities on October 19—there have been no further breaks as yet, forward-looking series reflecting orders do not appear to have been substantially affected, and although a number of indexes of consumer spending have been weaker than before, they are not disastrously weaker—and some of the weakness might well have happened anyway, given developments elsewhere in the economy. Thus it looks as if the stock price decline may have a quite limited impact on the economy, working mainly through some sluggishness in consumer expenditures over the next couple of quarters via an expectational effect. It does *not* at this writing appear that the effect of the stock price decline on consumer spending will be strong enough to produce a recession.

It needs to be recognized that these judgments are tentative, since there is no way to predict the consequences of a unique event by looking at historical data. The best one can do is try to find close parallels and then do a little extrapolation. In this case, the closest parallels appear to be the sharp declines in stock prices during several periods of the 1960s, where the consequences appeared to have been some slowdown in consumer spending but not enough to produce a recession.

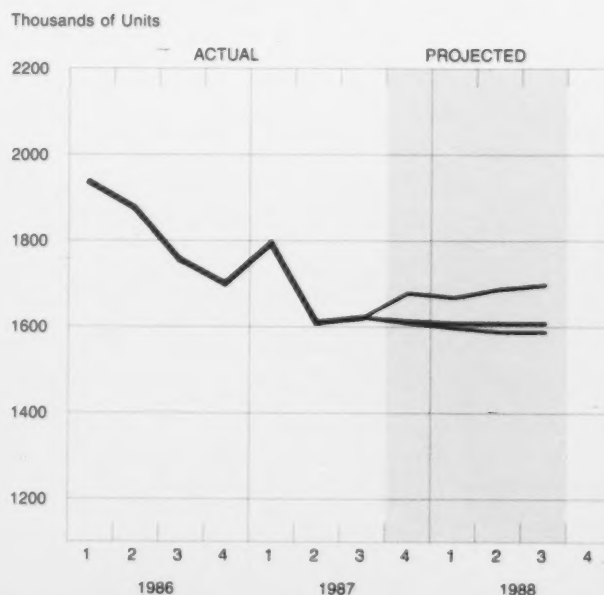
What is the probable timing of any effect of the stock price decline on consumer spending? That's very difficult to specify. Ordinarily, there are substantial lags between changes in consumer expectations and attitudes and changes in spending behavior—usually several quarters and often more than that. But that may not happen this time, and a reasonable speculation is that any effect will not have much of a lag. But that's just straight speculation.

Incidentally, nothing in the analysis about indirect effects is necessarily at variance with the finding noted at the

beginning of this article about the link between changes in household wealth and changes in subsequent household spending. Wealth effects may easily have both direct and indirect consequences—sharp increases in common stock prices both make a small number of households a good deal richer and may also make a large number of households feel that the economy is doing pretty well; while the reverse happens with sharp declines in stock prices—a few people are a lot worse off, and a great many people begin to wonder how well the economy will be doing. Thus one would observe behavioral consequences on household spending even if almost the entire effect of wealth changes worked through expectational phenomena rather than through direct impacts on household net worth. The data simply cannot discriminate between these two interpretations, and since both occur simultaneously, there is not necessarily any need to be able to make that discrimination.

January 1988

NEW PRIVATE HOUSING UNITS STARTED



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

The Crash and the Consumer

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Initial Reactions

Few events in our economic history have had as large or as lasting an impact on the national psyche as the stock market crash of 1929 and the ensuing depression. This event is widely known for the economic misery and suffering it caused at that time and is now widely used to symbolize the worst possible prospects for the economy. It is therefore no surprise that the steep decline in stock prices on the 19th of October was of great concern to consumers. The good news from the most recent survey is that the fear and panic on Wall Street has not swept Main Street.

The Index of Consumer Sentiment fell from the pre-crash level of 93.6 in the September 1987 survey to a low of 83.1 in November, but then rebounded to 86.8 in December, producing a quarterly average value of 86.4 (see the chart below). Although the rebound did not reverse all of the loss in confidence, it does indicate that the sudden plunge in stock prices has not triggered a free-fall in consumer confidence. The heightened sense of uncertainty expressed by consumers in the days and weeks following Black Monday has lessened, as the worst fears have not been confirmed by subsequent developments. Although the initial reactions of fear and uncertainty have dissipated, providing the basis for the small rebound in confidence, grave concerns about the outlook for the domestic economy still dominate consumer evaluations. Nonetheless, the December 1987 survey represents the first encouraging news since October 19th. Importantly, by year end buying attitudes had improved in response to increased discounting, and personal finances have remained at favorable levels. These data indicate that consumers will remain cautious in their spending plans but that a sharp retrenchment is not now underway.

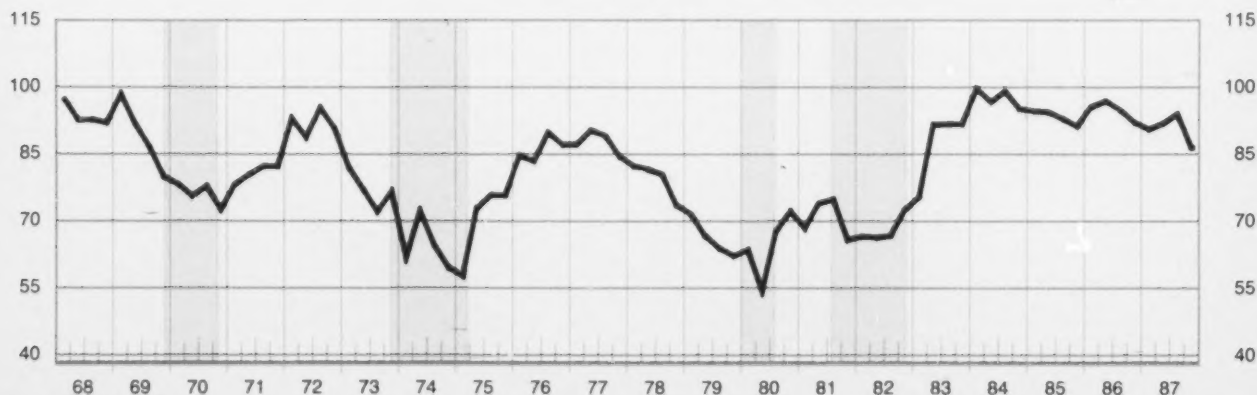
Crash Impact

The November and December 1987 surveys recorded a near universal awareness of the plunge in stock market prices. Before any reference was made by the interviewer to the stock market, fully half of all respondents had already spontaneously mentioned the stock market decline when asked to explain their views on questions ranging from personal finances to prospects for the general economy. In addition, when those respondent who had not spontaneously mentioned the stock market decline were directly asked, nearly nine of ten respondents reported hearing of the stock market decline. This high level of awareness was found among all major regions and demographic subgroups in the population. Such a pervasive and widespread impact indicates that for consumers the stock market decline has become an important factor in the formation of their own attitudes and expectations.

When asked about the likelihood that an economy-wide recession would result from the steep decline in stock prices, the majority of consumers thought that it was "somewhat likely," with the balance of opinion toward the view that a recession was not a likely prospect (31 percent) rather than "very likely" (16 percent). Although these views on the likelihood of a recession are no doubt higher than before the stock market crash, they are not as negative as might have been expected. Immediately before the question on the likelihood of a recession, respondents were asked about the overall influence changes in stock market prices have on the course of future economic conditions in the country as a whole. Even among those respondents that rated its influence highest, about as many thought that a recession was not likely as very likely. Thus, it would ap-

INDEX OF CONSUMER SENTIMENT

February 1966 = 100



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

pear that consumers view the repercussions of Black Monday as having damaged economic prospects, but not as a signal of economic disaster on the horizon.

When asked about the influence of changes in stock market prices on their overall financial situation, nearly three in four consumers reported that it had little or no impact on their personal financial situation. Just 7 percent of all families reported that the plunge in stock prices had changed their financial situation "a lot." And unchanged spending plans were more frequently reported than an unchanged financial situation. Among all families, 56 percent reported that they would not change their spending plans as a result of the market crash, compared with 43 percent that reported their financial situation had not changed. And just 5 percent of all families expected their spending to be reduced by a significant amount. The lesser impact on spending plans reflects the fact that losses from the market crash were in household wealth rather than current income. Importantly, although higher income groups were more likely to report financial losses, they were not more likely than other income groups to report reduced spending plans. Overall, the majority of families planned no change in their saving plans, and, among those that did plan changes, as many families cited plans to increase as decrease their saving. Among all families, 19 percent reported that they would save more and 19 percent reported that they would save less.

Overall Sentiment Trends

We live in a consumer-driven economy, where consumer confidence, more than investor confidence, will determine whether the expansion continues or the economy slips into recession. The crash came after nearly five years of expansion, built and maintained by record-setting trends in consumer confidence and spending. The maintenance of consumer confidence at high levels over the past few years has been due to offsetting changes. The Index of Consumer Sentiment has two major components: one focuses on evaluations of current economic conditions, the other on prospects for future changes. These data indicate that assessments of current economic conditions posted continued improvements through most of the expansion, while prospect for future improvements in the economy faded. The component reflecting evaluations of current economic conditions rose through 1984 and 1985, and set a new all-time peak level in June of 1986. Although evaluations of current economic conditions have declined since then by about 10 Index points (from 113.3 to 102.7 in December 1987), they remain more favorable than prior cyclical peaks. In contrast, the component reflecting expected future conditions has fallen through most of the past three years, losing 21 Index points from the March 1984 cyclical peak (97.7) to the December 1987 reading (76.7). The expectations component has now lost nearly half of its peak-to-trough range. (See the top chart on p. 25.)

Such a sustained divergence in assessments of current and future economic prospects was first recorded during the expansion of the 1970s, but the reasons underlying the 1980s divergence are unique. This expansion has been accompanied by shifts in the structure of consumer attitudes and expectations, especially expectations concerning wage and income growth, inflation, and interest rates. These represent significant changes in the structure of consumer

attitudes and are likely to reshape behavioral responses in the years ahead.

Perhaps the most important underlying change involves price expectations. The expected annual inflation rate has declined by a substantial amount over an extended period of time. Since the start of 1980, when inflation expectations peaked at double-digit levels, expected rates declined sharply during the recession years, and then, in marked contrast to past periods of economic growth, inflation expectations continued to slowly decline as the expansion lengthened. And, even though inflation expectations have risen by a small amount during the past year, at 3.3% they remain at very low levels. Further, the recent data indicate that price expectations have not risen in the aftermath of the stock market crash. (See the bottom chart on p. 25.)

More importantly, not only have expectations over the one-year horizon declined, longer-term price expectations have also declined by a substantial amount. At the start of the expansion, the average annual rate of inflation expected over the subsequent five years fell less rapidly than expectations for the subsequent year, and stood about 2 percentage points higher than the one-year expectations. Since then, however, the gap has been gradually narrowed, so that by the end of 1987 the expected average annual rate over the longer term was only marginally above the short-term outlook—3.6% versus 3.3%. It has been this change in both short- and long-term price expectations that has had a pervasive impact on consumer behavior.

Personal Finances

Personal financial evaluations have been more favorable during the past four years than anytime in the prior ten years, and have marked the longest period of favorable evaluations since the mid-1960s. The initial recovery in personal finances was sharp and rapid, with nearly the entire rise in favorable assessments recorded during 1983. Since 1984, consumers' assessments of their personal financial situation have moved sideways, in a zigzag pattern, at very favorable levels. What was responsible for the initial surge and subsequent maintenance of personal financial evaluations? Sharp and sustained declines in the rate of inflation, coupled with more frequently reported gains in family income. When asked about their current economic situation, the proportion of consumers that complained about the erosion of living standards due to inflation declined to about 10 percent in 1987 from nearly 50 percent in 1980. And about twice as many families have reported that their income had increased as declined during the past few years, a significant improvement from the recession low, when increases were reported nearly as frequently as declines.

In addition to the positive evaluations of their current financial situation, consumers also favorably view their financial prospects for the year ahead. In the fourth quarter of 1987, as they have been throughout the expansion, consumers were quite optimistic about prospects for their own financial situation. An important aspect of this renewed optimism is that it has been maintained despite declines in wage expectations. The median expected increase in family income has fallen 2 percentage points since the start of the expansion, and stood at 3.5% at year-end 1987. But because of the accompanying declines in the expected rate of inflation, *real* income expectations have remained favorable through most of the expansion.

By year-end 1987, however, the smaller size of income increases expected during 1988 has left real gains much more vulnerable to even a moderate speedup in the rate of inflation.

Buying Attitudes

Lower rates of inflation have not only benefited personal finances, these declines have also been reflected in favorable buying attitudes. Consumers' evaluations of buying conditions for large household durables during the past four years have been more favorable than at any other time during the past 35 years. Attitudes toward home buying conditions followed a similar record-setting pace, with favorable home buying attitudes more frequently reported during the past four years than any other time in the history of the surveys. Favorable attitudes toward vehicle buying conditions also set a new record level during the past expansion, although the margin of improvement was smaller and generally comparable to levels recorded in the 1960s. What accounted for these record levels? The emergence and dominance of two trends: favorable perceptions of market prices and favorable perceptions of interest rates on credit purchases.

Favorable perceptions of market prices for furniture, appliances, and home electronics have dominated consumer views of these markets during the past four years. When references to the availability of discounted prices on household items are compared to complaints about high prices, the balance of favorable opinion has never been wider for as long a period of time. Importantly, unlike prior expansions, consumers have focused on the current availability of discounted prices, not on the avoidance of future price increases.

Attitudes toward buying conditions for homes have also been strongly supported by favorable perceptions of market prices during the past four years. The balance of opinion toward current home prices has been more favorable during the past few years than any other time in the past 30 years. And just as importantly, the appeal of buying in advance of rising home prices was reported by the fewest consumers in 30 years.

In addition to the pervasive impact of these perceptions of market price trends, consumer responsiveness to interest rate trends has grown substantially during the current expansion. While unfavorable credit conditions have been repeatedly cited by consumers during past recessionary downturns, it has only been during the current expansion that declines in interest rates have been cited as the central factor in their assessments by the majority of consumers. The dominance of trends in mortgage rates on evaluations of home buying conditions is easily shown: In mid-1982, three in four consumers cited high mortgage rates to justify their negative evaluations. By mid-1986, three in four consumers justified their very favorable evaluations by reference to lower mortgage interest rates.

Importantly, as expected trends in mortgage interest rates have emerged as the dominant factor in consumer evaluations, borrowing in advance of expected increases in mortgage rates has found increased appeal. In this manner, interest rate expectations have replaced inflation expectations as the primary influence shaping purchase timing decisions.

Attitudes toward buying conditions for vehicles also recorded a new all-time favorable peak in the current ex-

pansion, built on the availability of deep price and interest rate discounts. Not since the mid-1960s have perceptions of market prices for vehicles been more positive than during the past few years. And far from the so-called "sticker shock" of the late 1970s, only in the mid-1960s did fewer consumers complain about high vehicle prices than during the past few years.

Interest rate discounts were mentioned more frequently by consumers than any other factor when asked to explain their views during the past few years. The repeated use of discount programs by vehicle manufacturers has dulled their impact on consumer attitudes and taught consumers to time their purchases to the availability of such discounts. Although the discounted interest rates offered in September 1987 were lower than those offered one year earlier, the proportion of consumers that mentioned their availability as a deciding factor fell to 40 percent in 1987 from 73 percent in September 1986.

The record levels of favorable buying attitudes during recent years have been amply reflected in sales. Sales of cars and light trucks rose from the 1982 low of 10.4 million to an all-time record of 16.1 million units in 1986. Sales of new and existing homes rose from a low of 2.4 million units in 1982 to 4.3 million units in 1986. The overall strength of consumer demand has also been reflected in very low saving rates. The personal saving rate has declined significantly since 1984, falling by half, from 6% to the record low of 3% in the third quarter of 1987.

During the past year, attitudes toward buying conditions for homes, household durables, and vehicles all declined from their newly set peaks. And sales have already reflected this shift in direction, as unit sales of vehicles and homes for 1987 as a whole fell below the 1986 levels.

Although the recent declines in favorable buying attitudes have been relatively substantial, the resulting lower levels are still relatively favorable by past standards, given the very high levels such attitudes had achieved. The proportion of families holding favorable vehicle buying attitudes fell from the peak of 81 percent in September 1986 to 64 percent in December 1987, favorable home buying attitudes fell from the peak of 86 percent in mid-1986 to 68 percent by December 1987, and favorable attitudes toward buying conditions for large household items fell from a peak of 80 percent at the start of 1986 to 69 percent in December 1987. In all three markets, the declines have been due to less favorable assessments of interest rates charged on these purchases. Yet despite these growing weaknesses, more families still held favorable buying attitudes at year-end 1987 than throughout most of the prior decades.

These changes in the structure of consumer attitudes help to anticipate consumer reactions to prospective changes in interest rates and prices. First, these data indicate the central role interest rates now play in consumer decisions on the timing of major purchases. Changes in interest rates during the year ahead will play the central role in determining spending decisions. Importantly, consumer responses will be governed by both current and expected levels of interest rates. In this changed environment, ongoing developments in interest rates and monetary policies will draw the heightened attention of consumers.

Second, the current expansion has been built on favorable perceptions of market prices, not on the pressure to

act in the face of escalating inflation. Rising product prices will more likely be resisted in this environment, rather than being quickly validated by the inflationary psychology that once dominated consumers. Moreover, consumers have found new advantage to postponement in the face of price increases, with the expectation that sellers would respond with renewed discounting in the future. These reactions are likely to dampen the unfavorable impact from rising import prices, insofar as consumers shift toward domestic products in response to price incentives and force importers to absorb some of the increases in lower profit margins or face larger losses in market share. Thus, while these reactions will help to dampen inflationary trends over the longer term, they will do so by weakening demand in the near term.

Business Conditions

In contrast to the record-setting trends in personal finances and buying attitudes, improvements in attitudes toward domestic business conditions have been more modest and more prone to deterioration during the past few years. Following a strong upsurge in early 1983, prospects for the general economy have edged downward since then. In mid-1983, the news heard by consumers of economic developments became very positive, with favorable changes cited nearly three times as frequently as unfavorable developments. Since then the mix of news heard by consumers has grown increasingly unfavorable, and for the past year unfavorable developments have been reported twice as frequently as favorable developments. This shift was also reflected in less favorable prospects for change in the economy during the year ahead. In mid-1983 the majority of consumers (55 percent) expected the economy to improve; at year-end 1987, as has been true throughout the year, the majority of consumers expected the economy to neither improve nor worsen, but for economic conditions in the country as a whole to remain largely unchanged.

When asked to assess these diminished growth prospects, favorable evaluations of financial conditions in the country as a whole have gradually fallen during the past few years. Moreover, even at their recent cyclical peak, these assessments of the economy were comparable to the cyclical peaks recorded in the 1970s, but below the levels recorded in the 1960s. Long-term prospects for the general economy have also shown a similar profile: Even at their best, consumers' views of long-term economic prospects never have regained the peaks recorded in the 1960s. A gradual weakening in these prospects has been underway for several years, with unfavorable prospects now the dominant expectation. And it was these prospects that suffered the most from the news of the stock market plunge.

Thus, while consumers found much to like in the low inflation rates that have accompanied the long expansion, other economic concerns, especially those focused on job prospects and the long term vitality of the American economy in an era of increasing international competition, have clouded the outlook for the domestic economy.

Summary Outlook

The stock market crash has diminished consumer confidence, but the extent of the damage has thus far been

limited. When new economic developments represent a dramatic departure from prior expectations, the heightened uncertainty prompts greater information seeking in an attempt to resolve the discrepancy. Although beliefs do not immediately change, the frame of reference used to process new information does. In the present context, consumers' perspectives have changed from whether ongoing developments indicate somewhat slower or faster economic growth, to whether they indicate that the financial dislocations stemming from the stock market plunge can be contained or will spread through the entire economy.

At present, the impact of the crash has been concentrated on attitudes toward the general economy. It is the very uncertainty about the consequences of the crash that has limited its initial impact to these more general economic expectations. The question that consumers are seeking to answer is: "What does it mean for me personally?" The answer has yet to be determined by most consumers and is the reason for the lack of initial impact on personal financial expectations.

Needless to say, the current situation is volatile. Whether a recession will eventually develop cannot be determined from these data, as the response by consumers has yet to move past their initial reactions. Nonetheless, the data indicate weakening sales. Much depends on developments in personal incomes and market interest rates. The best prospect is that the weakness in consumer sales is short-lived, with employment and income trends remaining strong, bolstered by rising exports more than diminished by rising inflation, and accompanied by lower interest rates on consumer loans.

Shifts in government economic policies will be an important factor in shaping the emerging responses by consumers. The ideal, of course, would be to maintain a lower level of interest rates without escalating domestic inflation, and to reduce the budget deficit without raising personal income tax rates. Determining and achieving the optimal balance among these conflicting goals is the Gordian knot that policy makers must now attempt to cut. Perhaps even more important than the specific policy goals, consumers need to feel that policy makers understand the problems and are taking forceful steps to resolve them.

January 1988

Note to Readers

In order to bring you the economic analyses featured in this issue, the second parts of articles by F. Thomas Juster (on wealth in the U.S. economy) and June E. Osborn (on AIDS) have been rescheduled for the next issue.

Actual and Projected Economic Indicators

seasonally adjusted

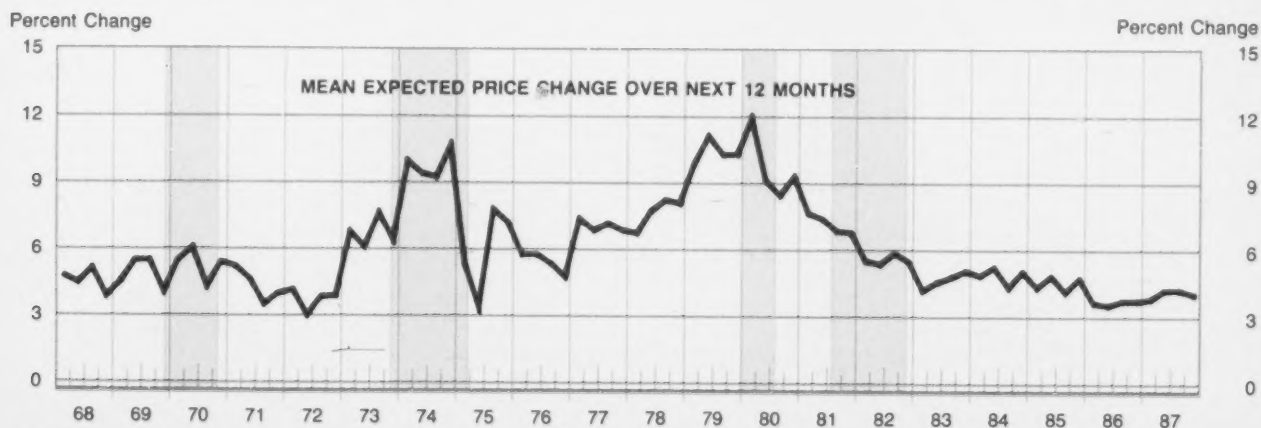
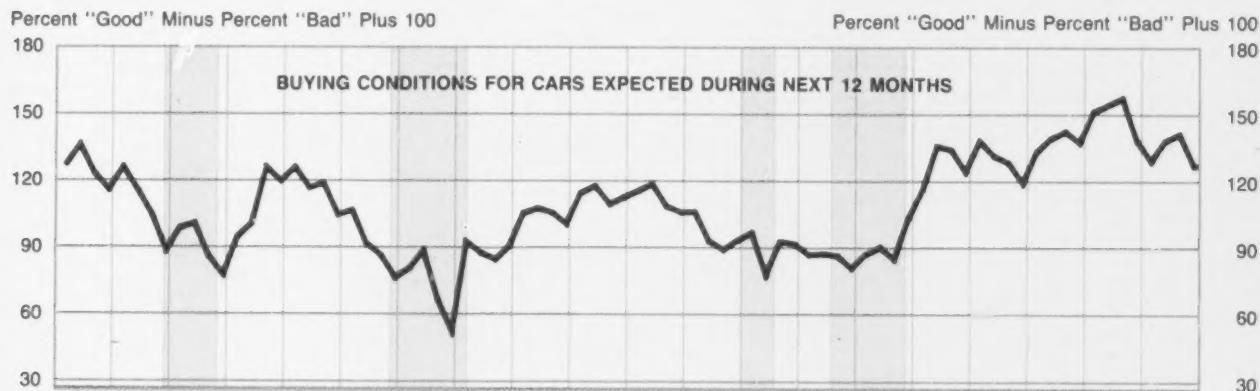
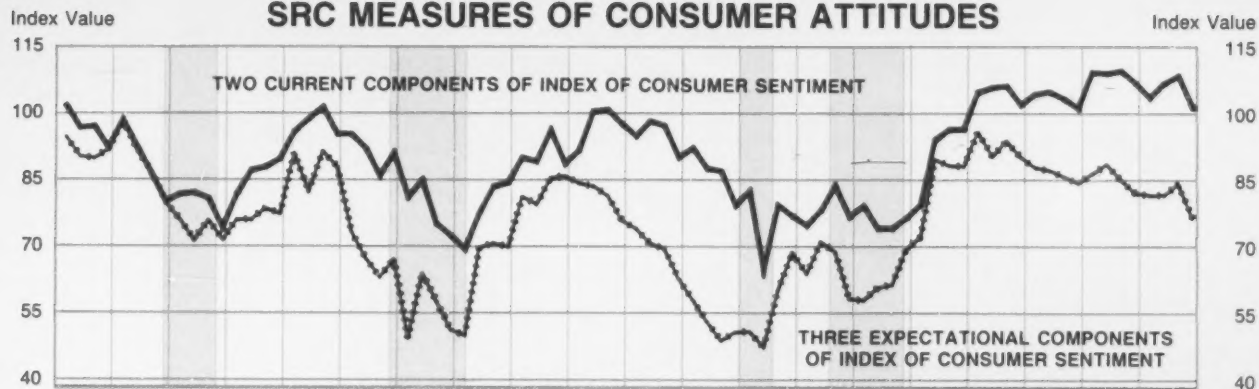
SERIES FORECAST BY THE ASA-NBER PANEL													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	Actual					Projected					Actual		Projected
	1986:3	1986:4	1987:1	1987:2	1987:3	1987:3	1987:4	1988:1	1988:2	1988:3	1986	1987	1988
GROSS NATIONAL PRODUCT	4,265.9	4,288.1	4,377.7	4,445.1	4,524.0	4,516.6	4,595.5	4,676.0	4,753.4	4,841.8	4,235.0	4,485.5	4,804.0
GNP IMPLICIT PRICE DEFLATOR (index, 1982 = 100)	114.7	114.9	116.1	117.1	117.9	118.3	119.5	120.8	122.0	123.2	114.1	117.8	122.6
CORPORATE PROFITS AFTER TAXES	130.2	134.0	129.0	134.5	141.9	137.0	141.0	144.0	147.0	148.5	126.9	136.0	147.5
UNEMPLOYMENT RATE (percent)	6.93	6.83	6.67	6.23	5.97	6.10	6.10	6.00	5.93	5.94	6.99	6.26	6.00
INDUSTRIAL PRODUCTION (index, 1977 = 100)	124.7	125.9	126.9	128.2	130.9	129.2	130.3	131.7	133.0	134.0	125.1	128.9	133.0
NEW PRIVATE HOUSING UNITS STARTED (millions)	1.758	1.702	1.795	1.612	1.623	1.610	1.605	1.600	1.600	1.600	1.819	1.660	1.600
CONSUMER PRICE INDEX (annualized percent change from prior quarter or year)	2.43	2.66	5.26	4.90	3.87	4.00	4.30	4.60	4.50	4.60	1.92	3.70	4.50
3-MONTH TREASURY BILL RATE (%)	5.53	5.34	5.53	5.73	6.03	5.88	6.00	6.10	6.30	6.35	5.97	5.80	6.23
NEW HIGH-GRADE CORPORATE BOND YIELD (percent)	9.14	9.05	8.62	9.65	10.14	9.69	9.80	10.05	10.09	10.00	9.23	9.41	10.10
GNP IN 1982 DOLLARS	3,718.0	3,731.5	3,772.2	3,795.3	3,835.9	3,820.0	3,847.5	3,881.0	3,899.5	3,927.8	3,713.3	3,809.0	3,915.0
PERSONAL CONSUMPTION EXPENDITURES (1982 dollars)	2,477.5	2,480.5	2,475.9	2,487.5	2,520.7	2,513.9	2,526.0	2,542.0	2,558.0	2,570.9	2,450.5	2,501.0	2,565.0
NONRESIDENTIAL FIXED INVESTMENT (1982 dollars)	437.7	443.2	426.0	437.9	463.8	441.0	447.0	450.0	455.0	455.3	443.8	437.0	454.3
RESIDENTIAL FIXED INVESTMENT (1982 dollars)	201.1	202.2	198.2	196.8	193.5	196.0	196.0	197.0	196.0	196.3	196.4	197.0	196.0
CHANGE IN BUSINESS INVENTORIES (1982 dollars)	6.1	-14.4	47.6	39.0	24.6	18.9	16.4	20.0	21.7	21.5	13.8	30.2	21.0
NET EXPORTS (1982 dollars)	-161.6	-151.8	-135.2	-132.7	-138.4	-124.0	-121.0	-115.0	-111.0	-102.3	-145.8	-128.0	-107.0
FEDERAL GOVERNMENT PURCHASES (1982 dollars)	332.6	344.6	327.3	332.6	336.3	332.9	340.3	336.8	337.0	338.0	332.5	333.4	339.0
STATE AND LOCAL GOVERNMENT PURCHASES (1982 dollars)	424.6	427.1	432.3	434.1	435.4	439.0	442.0	444.4	447.0	450.0	422.1	437.0	448.5
SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS													
ECONOMIC INDICATOR	Quarterly Data										Annual Data		
	1985:2	1985:3	1985:4	1986:1	1986:2	1986:3	1986:4	1987:1	1987:2	1987:3	1984	1985	1986
GROSS NATIONAL PRODUCT	3,973.6	4,042.0	4,104.4	4,174.4	4,211.6	4,265.9	4,288.1	4,377.7	4,445.1	4,524.0	3,772.2	4,010.3	4,235.0
PERSONAL CONSUMPTION EXPENDITURES	2,602.0	2,665.4	2,700.1	2,737.9	2,765.8	2,837.1	2,858.6	2,893.8	2,943.7	3,011.3	2,430.5	2,629.4	2,799.8
GROSS PRIVATE DOMESTIC INVESTMENT	648.4	628.6	650.8	683.4	679.4	660.8	660.2	699.9	702.6	707.4	664.8	641.6	671.0
NET EXPORTS	-77.3	-84.7	-103.5	-93.8	-100.8	-110.5	-116.9	-112.2	-118.4	-123.7	-58.9	-79.3	-105.5
GOVERNMENT PURCHASES	800.5	832.8	857.0	846.9	867.2	878.5	886.3	896.2	917.1	929.0	735.9	818.6	869.7
DISPOSABLE PERSONAL INCOME	2,848.4	2,847.2	2,906.6	2,966.0	3,022.4	3,038.2	3,061.6	3,125.9	3,130.6	3,195.3	2,668.6	2,841.1	3,022.0
PERSONAL SAVING RATE (percent of disposable income)	5.7	3.4	4.1	4.7	5.5	3.6	3.6	4.4	3.0	2.8	6.2	4.5	4.4

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in December, and projected data, released by ASA-NBER in September, are displayed for third quarter 1987.

Sources: Projections: American Statistical Association—National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

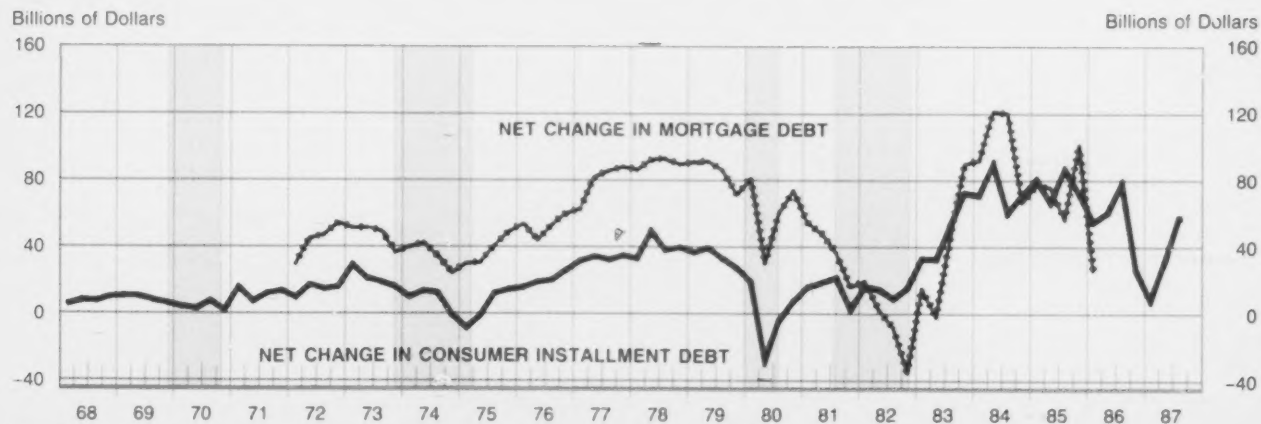
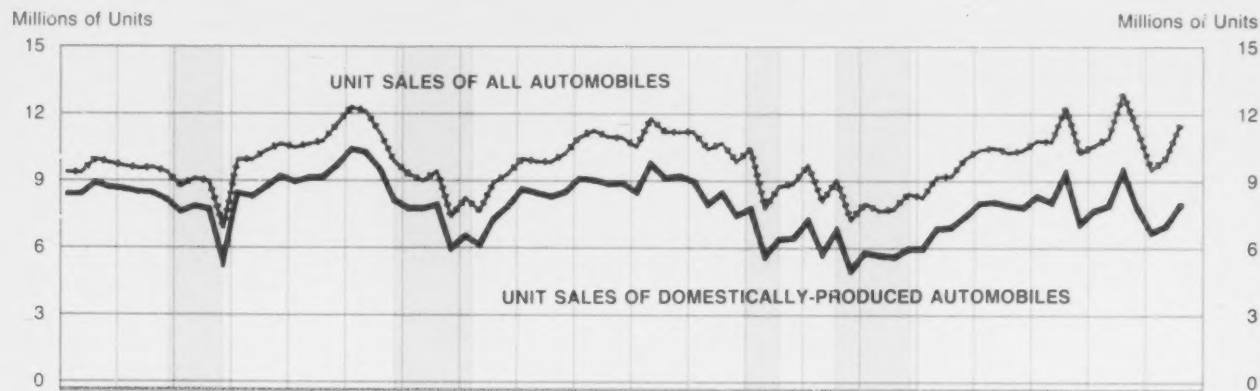
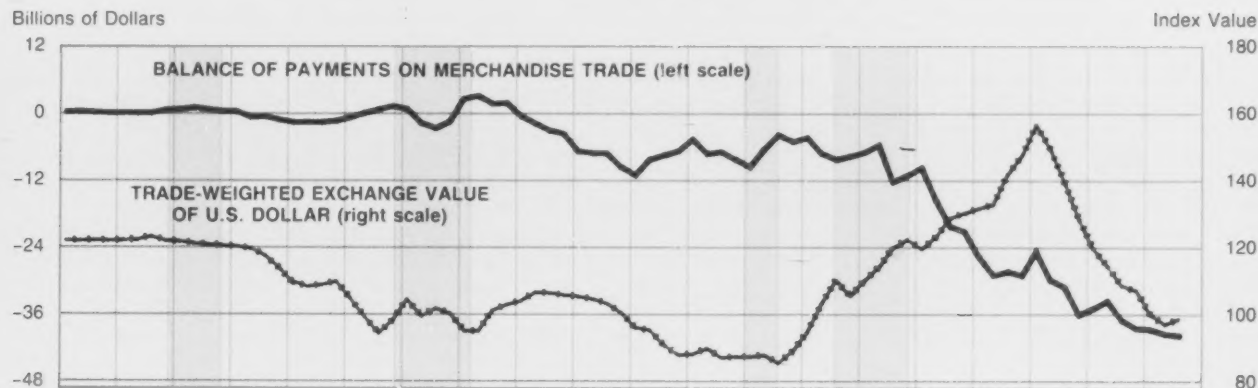
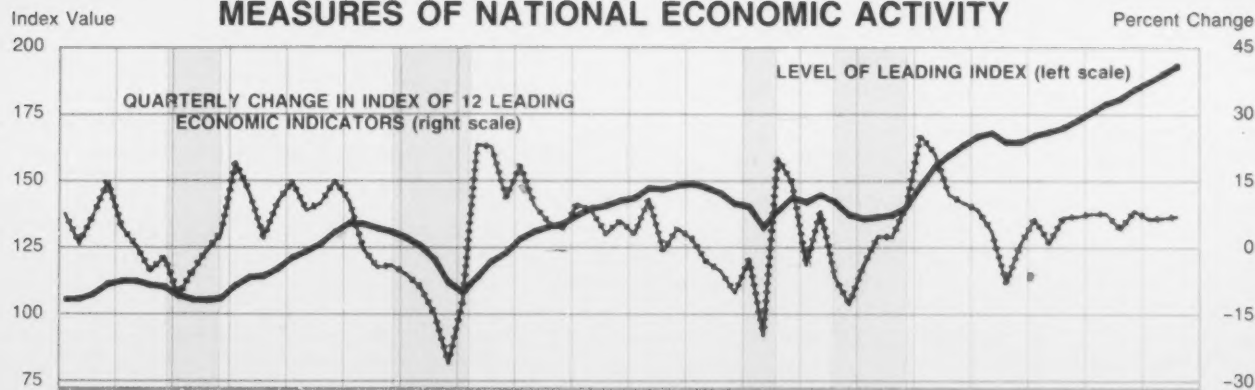
*Substantial revision of the data for series marked with an asterisk has occurred since the last printing.

SRC MEASURES OF CONSUMER ATTITUDES



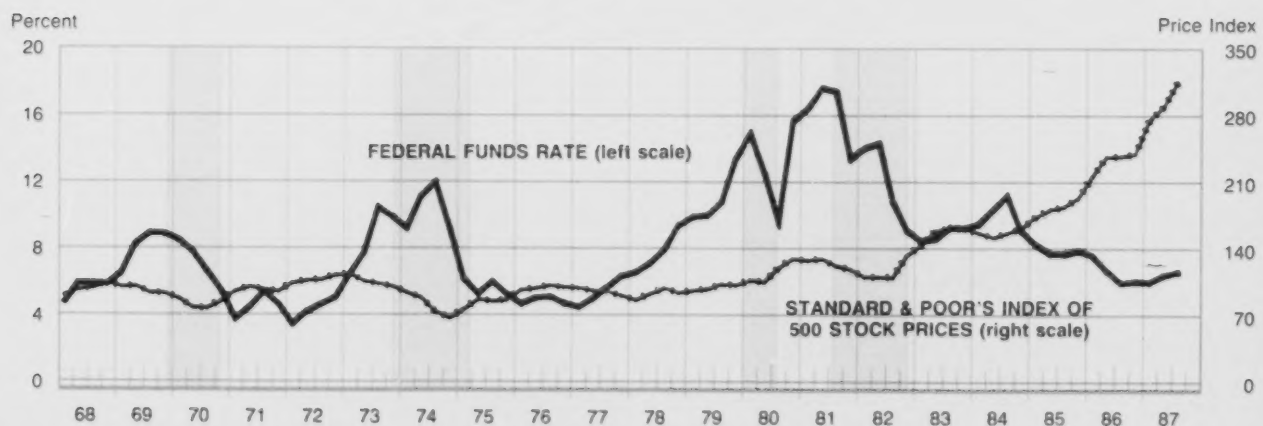
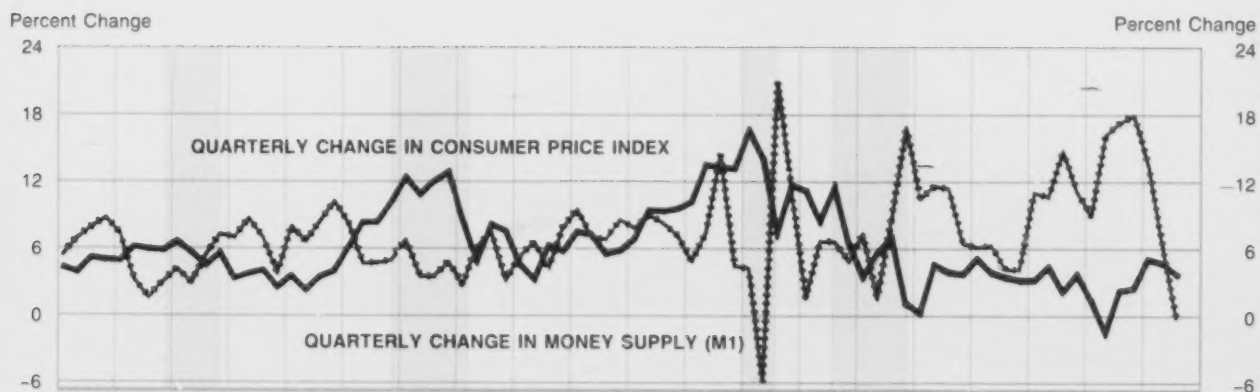
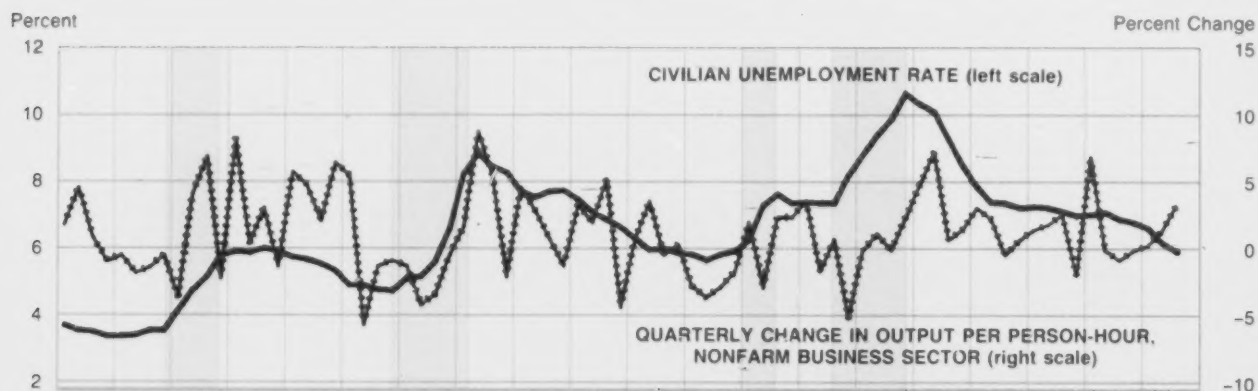
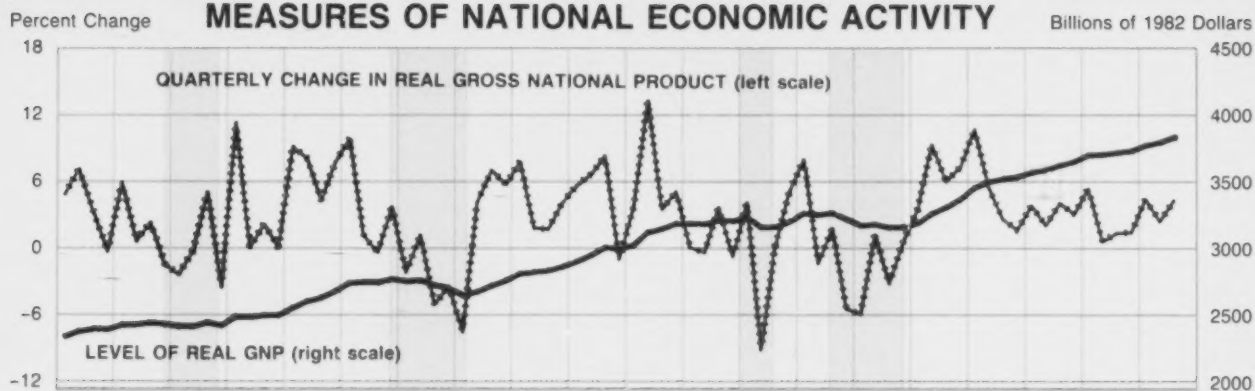
Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

MEASURES OF NATIONAL ECONOMIC ACTIVITY



Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

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June E. Osborn
AIDS and Public Policy

F. Thomas Juster
The Distribution of Wealth in the U.S. Economy:
Part 2

Update on the U.S. Economy

Timothy M. Smeeding and Barbara Boyle Torrey
An International Perspective on the Income and
Poverty Status of the U.S. Aged

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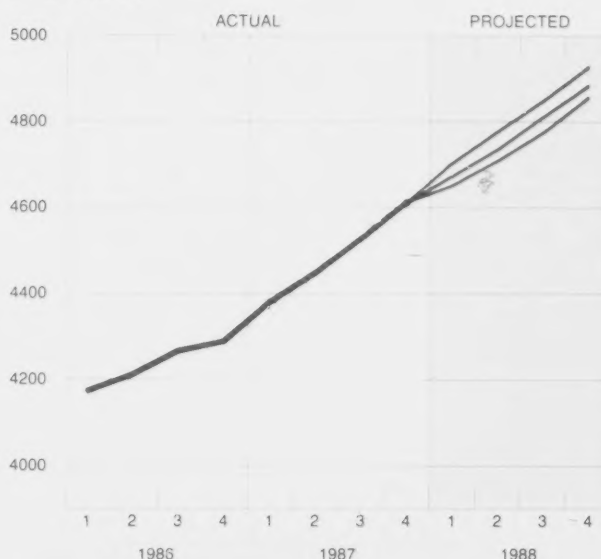
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GROSS NATIONAL PRODUCT

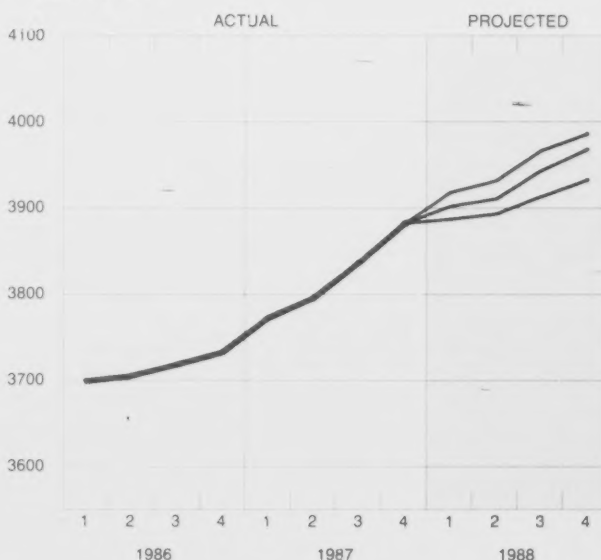
IN CURRENT DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

GROSS NATIONAL PRODUCT

IN CONSTANT 1982 DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

AIDS and Public Policy¹

June E. Osborn, M.D.

Dean, School of Public Health, and
Professor of Epidemiology and Pediatric and Communicable Diseases
The University of Michigan

Introduction

In the Summer 1987 issue of this publication, the scientific issues relating to incidence, transmission, and prevention of AIDS were examined. In this article, we turn to the public policy issues related to AIDS. In particular, we discuss the possibilities for biological/medical innovations, the possibilities for educational interventions to modify behavior, and the kinds of policies that are needed to promote gains along either or both of these paths. We also discuss the issue of whether casual contact is a potential transmitter of the AIDS virus (HIV) and examine the public policy issues involved in various proposals for screening, quarantining infected groups, etc.

Biological/Medical Innovation

Americans are accustomed to a technological-fix solution to most medical problems. We know from past history that the polio virus no longer strikes down thousands of people, because an effective vaccine was developed that prevented the spread of infection from victim to host. We know that there was apprehension a few years back about the spread of the swine flu virus, that extensive vaccination plans were developed by public health officials, that these plans were never fully implemented for a variety of reasons, but that the virus spread ceased unpredictably and a swine flu epidemic never appeared. And we also know in our historical memory that measles, diphtheria, and the black plague no longer afflict societies with adequate public health institutions and facilities. Why should AIDS be different?

The fact is, AIDS is different. Unfortunately, it is not different because it is *easier* to develop an effective vaccine or other technological fix, but because, due to the specific nature of the virus infection,² it is apparently *much more difficult and may well be impossible*. This is true not only for development of a vaccine to prevent the appearance of AIDS illness, but also for development of drugs which could provide effective treatment for AIDS victims without severe toxicity.

The virus vaccines currently available all mimic known mechanisms of immunity in natural infection: either they provoke the kind of antibodies known to be protective or they actually imitate the natural infection in its entirety (through use of live, attenuated strains of virus). These approaches cannot be used with HIV, for it is not yet clear what (if any) immune response is useful in natural infection, and the subtleties of the new virus make attempts at attenuation too risky.

Several other features also complicate vaccine strategies. First, there are no good animal models other than chimpanzees in which to study and test vaccine candidates. Second, even in the context of other retroviruses in their host species, most vaccines have failed, and those that exist have not proved unequivocally effective. And finally, HIV shares a property of other lentiviruses (and of influenza) of changing its antigens with such ease that vaccines might be only transiently effective even if some of the other hurdles were overcome.

In the face of these considerations, work toward a vaccine is proceeding along the most reasonable lines currently evident; but thus far every avenue that has been explored has failed in the chimpanzee model. Clearly it will be years before a widely available vaccine joins our armamentarium against AIDS.

Even assuming that a scientifically exemplary and theoretically sound vaccine could be developed, the pragmatic barriers to implementation — testing, licensing, and marketing — are staggering. Appropriately large groups of willing human subjects at high risk of infection would have to be located so that the efficacy of the vaccine in protecting them from subsequent exposure to HIV could be demonstrated. The safety of the candidate vaccine would also have to be confirmed, with issues of reliability for perceived complication of immunization looming even larger than they already do with existing vaccines for familiar infectious diseases. Finally, target groups on whom use of such a vaccine was deemed desirable would have to be defined and then persuaded of its merits.

If, as an alternative, public health authorities decided that universal vaccination was the best strategy for containment, we would be faced afresh with all the problems and issues that made the swine flu immunization campaign of 1976 so difficult for the public and for public health officials alike. Since vaccine-adverse reactions are initially logged by recording any untoward events that occur within several weeks following immunization, mass immunization automatically brings to the surface all the ills to which humans are prone, many of which have unknown causes and are therefore ascribed to the vaccine by a litigious public. It should be recalled that more than \$4 billion in claims were brought against the government before the campaign of mass immunization against swine flu was aborted. Thus the practicalities surrounding a vaccine approach to the AIDS epidemic are truly daunting.

Treatment prospects are not much more promising. The early-touted candidate drugs were extremely toxic and proved ineffective when put to controlled test. In 1986 the drug AZT was licensed for use in AIDS patients (under some defined circumstances). It clearly increases the well-being and longevity of those patients who can tolerate its substantial toxicity; but even among those who can keep taking it, it has a serious adverse effect on the bone marrow, and as many as 25 percent of such patients become dependent on repeated transfusions to maintain their

¹Parts of this discussion also appeared in the author's note recently published in *The New England Journal of Medicine* (318:7, Feb. 18, 1988, pp. 444-447).

²This was discussed in the article which appeared in the Summer 1987 issue.

clinical well-being. It is possible that use of AZT earlier in HIV infection might have less toxicity, and that issue is currently under study.

The net social impact of AZT is very complex. Certainly it is a welcome ray of hope for persons with AIDS. It extends life expectancy, thus allowing more AIDS patients to outlast the two years usually required to qualify for Medicare; and it costs \$7,000 to \$10,000 per year. That cost may be offset somewhat by reduced need for hospitalization, but since the financing of inpatient and outpatient medical care tends to be from different sources, the equation is not a straightforward one, and there is considerable room for concern about unequal access to care. The strategies may have potential relevance for infected persons who have not yet progressed to the illness stage, but they present difficult tradeoffs for actively ill AIDS sufferers.

Changing Human Behavior

As with many other diseases, the most attractive opportunity for coping with the AIDS epidemic is prevention. In simplest terms, breaking the string of transmission has great likelihood of containing the virus in view of its present, very limited means of spread. The high-risk groups are at high risk for behavioral reasons that are generally well understood: infected intravenous drug paraphernalia is known to be dangerous; homosexual risk increases dramatically with numbers of partners and with certain sexual practices. The risks to hemophiliacs and transfusion recipients have probably been interrupted already, with the advent of mass screening of donated blood and plasma.

The awareness that heterosexual transmission of AIDS is a definite means of spread, albeit less efficient than homosexual, should sound familiar alarms about the dangers of sexually transmitted diseases in the context of promiscuity. A significant proportion of AIDS cases in females occurs in prostitute populations, especially in the context of intravenous drug abuse; and it is likely that bisexual men have played an important role in establishing the virus in these populations.

What are the prospects that significant changes in behavior could, in fact, be accomplished, given people's sexual preferences and habits? We do not know for certain the answer to that question, but in view of the evidence summarized above, it is clearly important that we should try seriously and that campaigns of public education and information need to play a major role in public policy towards the AIDS epidemic.³

The Extent of the Disease

Before examining the prospects for changing behavior in the groups that are at risk, it might be well to remind ourselves what may happen if we are unsuccessful either at developing an effective vaccine/treatment or at preventing

the spread of AIDS through public education and information.

The potential magnitude of an AIDS epidemic in the U.S. is daunting. Although the first cases of AIDS were not diagnosed until 1981, by now about 55,000 persons have died or are dying of AIDS. In addition there are well over 100,000 others who are already seriously ill with problems related to their HIV infection, and it is thought that perhaps 1.5 million Americans are silently infected. The likelihood that these people will become ill is going up relentlessly. Early in the epidemic it was thought that less than 10 percent of HIV infections would proceed to AIDS and that the incubation period was about two years. With increasing time and experience, both estimates have been steadily extended and may yet have to be increased again. Now it appears that the interval between the onset of infection and advent of AIDS may more typically be 5, 8, or even 10 years, and that 50 percent or more of infected individuals ultimately will become ill. Current projections, which are probably on the low side, indicate that by 1991 there will be a cumulative 270,000 cases of AIDS, with 179,000 of them already deceased. The estimates (made in 1986) have been quite accurate for the first year of the projection.

Epidemiologic trends have also been projected. To date, the U.S. epidemic has had a fairly constant pattern. Of those affected, 93 percent are men and 7 percent are women. A preponderance of cases occur among men who are gay (66 percent) or both gay and IV drug users (8 percent). As a group IV drug users account for 25 percent of the AIDS epidemic. While this general pattern is expected to hold true, it is predicted that by 1991 the sex ratio will shift to 91 percent men and 9 percent women — and remember that those are percentages of a number ten-fold greater. That change is expected to result from increasingly frequent HIV transmission from male IV drug users and bisexual men to their female sexual partners through heterosexual intercourse.

Increasingly, it is expected that heterosexual intercourse *per se* will become a contributory risk behavior when multiple sexual partners are involved. It is not yet a common occurrence, but there are well-documented cases in which the virus has been passed sequentially, by intercourse, from an infected man to a woman and, later, from that infected woman to another man. It would be correct to say that the heterosexual mode of spread is not yet the dominant mode in the U.S., although it certainly is elsewhere in the human family; but in guiding a path through the tangle of this epidemic, we need to talk to people about what *can* happen, not just about what happens with a high statistical frequency. Heterosexual spread has been a fact of the epidemic from its very beginning, and, as the virus prevalence increases, it can only grow.

As if the problems weren't complicated enough, minority populations in the U.S. have tended to view the AIDS epidemic as a so-called "gay white man's disease." What a deadly mistake that is! By 1986 the numbers of AIDS cases among blacks (25 percent of total cases) and Hispanics (14 percent) was disproportionately high in all behavioral risk groups, exceeding the representation of those ethnic groups in the U.S. population by two-fold. The overrepresentation of minorities is and will be most striking among women and children: by 1991 over 80 percent of women and over 90 percent of children with AIDS will be black or Hispanic. This reflects the increasing role

³Incidentally, we in the scientific community should also be very careful about promising quick-fix results. An anecdote illustrates the point vividly: in 1984 the Secretary of Health and Human Services announced that the virus of AIDS had been identified and predicted the likelihood of a blood test within 6 months and a vaccine within 2 years. In Los Angeles, bath-houses specializing in anonymous homosexual contact, which had stood empty for months out of fear, were suddenly filled and had four-hour waiting lines.

of IV drug use and heterosexual intercourse in patterns of spread, but it also reminds us that bisexuality goes by many names or no name and is probably a constant element across all human cultures.

Since these data were reported, we have acquired some additional data to lend insight into more recent spread of HIV, and they are not reassuring. The U.S. military has been screening their recruits for HIV antibody and rejecting those who test positive. They have tested several hundred thousand young Americans this way — individuals who have probably selected away from at least habitual high risk behaviors, since it is well known that both homosexuality and drug use are illegal in the military. Among the trends they have documented is an increasing equality of incidence of infection between men and women. Nationally the rate in male volunteers was 1.6 per 1,000, and the rate in females was 0.6 per 1,000. The 3:1 ratio contrasts ominously with the 11:1 ratio of AIDS cases in the general population. Among recruits from the New York City area, the trend toward equality in the sexes is even sharper: 1.6 per hundred men and 1.3 per hundred women tested positive. Bear in mind that AIDS cases represent an out-of-date snapshot — infections that occurred 5 or more years ago — and that these young seropositives will populate the AIDS epidemic of the future.

Transmission via Casual Contact

An important issue of public policy relates to the question: can the AIDS virus be transmitted through casual contact, or are the only transmission mechanisms sex, blood, and birth? The question is obviously crucial, since every week brings fresh evidence that both the public and many politicians clearly act as if they thought that AIDS could be transmitted by proximity.

First, what is the evidence that AIDS cannot be spread other than by sex, blood, or birth? Although there are no laboratory experiments which could prove conclusive on this point (because of the marked species specificity of the virus for man), there have been, in fact, a large number of natural experiments in which other modes of transmission have been examined in human settings. The results have been dramatically reassuring.

How could one convince a skeptic that this was true? There are several things that might be done. First, you might set up an experiment in which dying AIDS patients were hugged and kissed, where household items were shared over a period of weeks and months, and then test the people so exposed. As it turns out, the "experiment" has been done. In dozens of families where loved ones died slowly of AIDS, the Centers for Disease Control tested family members thus exposed, not once but numerous times, over the succeeding months. Not a single person ever became infected without sexual contact.

If that were not enough, you might turn to hospitals where AIDS patients are concentrated and to health care workers who had to care for profoundly ill AIDS patients even before they were identified as such, handling all manner of secretions and tending to every bodily function. It turns out that this "experiment" has also been done — the Centers for Disease Control studied that, too, and out of many hundreds of health care professionals who have been carefully followed, not a single person who did not have high-risk behavior has ever become infected.

And if even that were insufficient as evidence, you might try the ultimate experiment — take needles and scalpels used directly for AIDS patients and poke other people with them. It turns out that that "experiment" has been done, too, and of over 1,300 such accidental exposures, none developed AIDS, only 3 resulted in evidence of HIV, and only one of those lacked discernable risk factors besides the accidental puncture.

Some new evidence on the issue was reported early in March by the Centers for Disease Control in the *Journal of the American Medical Association*. CDC researchers who looked at every case of AIDS reported since the epidemic began concluded that the disease has only been transmitted through the sex, blood, and birth mechanisms mentioned here. In their words: "despite theoretical concerns and anecdotal reports, there is no evidence to suggest that the AIDS virus has been transmitted through saliva, tears, urine, eating utensils, vaccine, casual contact, or insects."

Administration Attitudes

The record of the current administration on their perception of the need for public awareness and education is not reassuring, although the recent pronouncements of the chairman of the President's Commission on AIDS offer a ray of hope. But up to now the U.S. is behind every industrialized country in the world in public education on AIDS, despite the fact that the epidemic is more serious in the U.S. than in any other developed country.

October 1987 was heralded as AIDS Awareness and Prevention month in the U.S. The U.S. Public Health Service tried to use every gambit they could maneuver past the censor in order to communicate about AIDS, but their efforts added up to little more than a whisper! With language as the only weapon in this war, their vocabulary has been artificially limited, and their phrases have been written with careful cognizance of official morality.

Even then their efforts at restraint apparently weren't good enough, for in late September the brochure that was to have gone to every household as part of the October campaign was once again rejected by the administration censor; it is terribly hard to discuss transmission of the AIDS virus without mentioning multiple sexual partners, drug abuse, and the like; and the administration seems to feel that to mention is to condone. When someone complained that the \$20 million specifically designated by Congress for a nationwide mailing was being impounded by default, the head of the president's Domestic Policy Council commented that anyone who didn't already know that AIDS was transmitted by sex and drugs was the sort of person who didn't read his mail! Mr. Bauer is probably correct — but does that mean that we shouldn't expand the education of those who do? Does it follow that those who are functionally illiterate should be denied any access at all?

The latter point is of great concern, for, as the epidemic progresses, our disadvantaged citizens are proving to be at special risk; and yet it appears that we won't be using TV for a while. We seem not to be able to afford prime-time TV and will have to settle for radio while hoping that the public-spiritedness of the networks will inspire them to donate a few minutes here and there. Shouldn't critical public health issues at least get equal time with the U.S. military recruiting advertisements?

And how astonishing it is, after even a random sampling of daytime soaps or nighttime fare, to learn that we are worrying about tastefulness as we take to the American airwaves in the name of public health! We need to talk frankly about multiple sexual partners and unsafe sexual practices, about experimentation with drugs, about bisexuality, and about the ways to minimize risk. But to address those matters, we must use words that no one is supposed to use; and we must acknowledge that real life mores do not yield instantly to the admonition "just say no."

We have had more than 6 years to become inspired to our preventive task, and, except for Surgeon General Koop's courageous stance, we have yet to talk publicly about anything but monogamy and chastity — as if that approach would rivet the attention of persons at high risk or as if failure to mention morality with every breath would turn us into advocates of sexual anarchy and licentious drug abuse!

In some of the public discourse, there has been an ugly tendency to talk about certain AIDS patients (such as those infected through blood transfusion) as "innocent victims." We do not talk about guilt to patients with lung cancer, although the behavioral component to its etiology is even more systematic; and yet concerning AIDS we speak about the innocence of certain patients while implying, by the symmetry of language, that others are "guilty." If we really mean to withhold our compassion that way, what an extraordinary deviation from our country's dedication to the worth of the individual. If the next generation becomes infected through failure to warn, where will the guilt lie? With the dying?

Public Policy Options

The AIDS epidemic is putting our social and political skills to an extreme test, but we should celebrate the fact that in just 6 short years biomedical and epidemiologic scientists have constructed a firm foundation of abundant data on which to build carefully focussed policies which are responsive to the precise contours of the epidemic. The good news is that our seemingly extravagant investments in basic research were in the nick of time, and for the first time in human history we are in a position to respond to a major plague without panic and without resort to draconian extremes of social action.

Given these facts, much of the AIDS dialogue these days seems to be predicated on stark unrealism. The general public indulges itself in complaints about the tastelessness of condom advertising, and many public policy makers seem to be operating on the notion that we are coping with a short-term or finite problem: that the "good old days" will return in 1991 or soon thereafter. Some people talk as if the projected ten-fold increase in AIDS cases won't necessarily happen or, if it does, that the numbers will magically stop there and go no further.

Let us dispense with those dreams quickly: AIDS is here to stay and will be a fact of life for our children's children; we can exert great influence on how *dominant* a force it will be, but we cannot make it disappear. The projections of a quarter-of-a-million Americans dead or dying of AIDS by 1991 are based on sufficiently valid data that, while they might be low, they will assuredly not be high. And nothing says that there won't be a further stepwise increase in 1992 in the absence of public education

and effective warnings — a national effort still not launched in the U.S. one year after these solidly-based projections were issued at a national meeting on AIDS.

The unreality about policy shows up clearly in public discussions of such measures as quarantining and mandatory testing. Let's look at quarantine as an illustration of the problem. In America we are talking about as many as two million individuals, in whom infection and infectiousness are lifelong. They do *not* represent a threat to others except by the closest kind of consensual behavior, and yet in public opinion polls quarantine has the support of 25 percent of those surveyed. The logistics would be daunting, to say the least: how would we do that, even if we could find an appropriate island or enclave? Would we feed them? Would we have them make license plates for a living? We would certainly have to guard them to keep them from slipping out, and probably to prevent family members and loved ones from slipping *in*. This all sounds so perverse that I hate to discuss it; but the societal winds leading in this irrational and dangerous direction are blowing strong, and silent contemplation of such atrocious options haunts the public policy debate in significant ways.

For instance, I suspect that some thought of quarantine lies in the back of the minds of policy makers who seem to be positively *possessed* by the remarkably tenacious wish to screen. When pressed to justify their position, advocates of mandatory or very widespread antibody testing to detect asymptomatic infected individuals fall back on the rationale that it would be desirable to know with greater accuracy how many people are infected. Since they aren't doing much with the information we already have in hand, that argument is peculiarly unconvincing. And anyway we don't need to violate people's privacy and autonomy to do that; we can get a very good idea of virus prevalence through anonymous samplings of sera collected for other reasons.

But a more profound argument arises concerning mandatory testing: given that the very restricted modes of transmission are consensual and private in nature, limitation of virus spread — which is the other presumed goal of such programs — is based of necessity on voluntary changes in behavior. In fact, if mandatory approaches worked we would not have an epidemic of illicit drug use to serve as a major vehicle for further spread of the AIDS virus. Since intravenous drug use is already illegal, the use of mandatory urine testing for drugs in the U.S. serves as an interesting "trial run." Thus far, the chief results of such programs seem to be, first, a black market in "negative" urine and, second (in reaction to that), a level of intrusion in observing the donation of the urine sample to verify its authenticity that makes one shiver at the implications for AIDS control, but does not inspire confidence about the impact on drug use.

Similarly, mandatory contact tracing for the presence of AIDS is proposed by some with the argument that it is a "tried and true" method of control of sexually transmitted diseases; and premarital screening of blood for HIV antibodies is argued for on the same basis. But if such mandatory measures had really been effective, why were we already undergoing epidemics of a dozen sexually transmitted diseases at the time AIDS first appeared?

In fact, it has been well argued by Allan Brant — in his fascinating book on the history of the American response

to sexually transmitted diseases entitled *No Magic Bullet* — that our coercive social programs didn't work at all well. Even common sense would argue that *mandatory* contact tracing works only as well as the cooperation of the index case will allow. And there are those who contend that efforts to enforce such heavy-handed public health approaches will simply ensure that the epidemic will go "underground" and that anonymous sexual encounters will continue.

As to premarital screening for syphilis, its inefficacy and unwarranted cost have led increasing numbers of states in the U.S. to abandon it in favor of more focussed policies. As *The New York Times* remarked dryly in an editorial last May opposing such broad-brush responses to the AIDS epidemic, the premarital syphilis test was dropped in New York state recently because "the results were not worth the cost, and because of suspicion that some couples nowadays have sex before marriage."

Thus, in two of the hottest of the current political debates concerning AIDS, the epidemiologic and scientific facts of the epidemic are not factored in at all. The very gravity of our epidemic situation demands that we be honest in our critical assessment of past policies. If we are honest with ourselves, then we must admit that penicillin, rather than public health officialdom, deserves the credit for curtailing syphilis; and the explosive spread of antibiotic-resistant gonococci and the advent of chlamydia and a host of untreatable sexually transmitted diseases among both homosexuals and heterosexuals should warn us not to be so uncritical of past strategies.

Let us be very clear: the horror of AIDS and its inexorable progress to an unpeaceful death is such that any political or ethical analysis would mandate whatever public health policies were best designed to abort the epidemic at the earliest opportunity. As to civil liberties and public health, it is a happy fact that the data lead to the conclusion that *wise policies will optimize them both*.

Just to keep screening issues in perspective, let me describe what I believe to be the proper uses of screening. First, mandatory screening of the donors of blood and blood products and of organs/tissues/cells is clearly important and warrants the investments in its deployment that have been made. Second, I am fully in favor of voluntary testing in the context of counselling, confidentiality, and anonymity (if deemed necessary by the participant). We should facilitate use of the test, but there is much work to be done here, for many communities have located their alternate test sites in the heart of the inner city or in the sexually-transmitted-diseases clinic, and the social disincentive to use their services can be quite strong for the worried well. Furthermore, the medical profession is not yet well educated about the epidemic. Bisexuality, closet homosexuality, and the patronization of prostitutes — not to mention experimental use of illicit intravenous drugs — are not common topics of discussion in the present-day doctor-patient relationship. Our policies should recognize this and facilitate realistic testing opportunities so that worried individuals can learn their status and behave responsibly toward their loved ones, as most wish to do.

In short, we haven't tried the voluntary approach to control of the AIDS virus nearly as energetically as I believe we must. Our data tell us that in both the U.S. and Europe, when high-risk individuals have been educated to

recognize the specific behaviors that put them at risk, the results in terms of behavior modification have been truly astonishing. Compared to prior efforts of any sort at health education, much less sex education, the magnitude of change has been dramatic. Public education is particularly urgent for individuals who have yet to adopt lifestyles — adolescents and children. We need their willing attention, not their surly compliance; the tone of our preventive programs will do much to determine which we get.

Let us look at some other things we *should* be doing, besides optimizing the use of the antibody test through well-conceived programs of voluntary participation. As I mentioned before, we should have been conducting public education campaigns long since; it is embarrassing that we are one of the few industrialized countries which have yet to mount a coordinated program of public education about AIDS. With merely two dozen or two hundred cases, the majority of countries who can afford it have deployed the full power of their media and government access to warn their people of the new threat; and we, with well over 50,000 cases, 1-2 million infected, and the experience from which they are all learning, are officially mute. Failure to warn about the new virus and its lethal consequences is an extraordinary punishment for unapproved sexual activity, and it seems to me that we are ethically bound to say what we know about prevention.

Condoms, for instance, are quite effective (although not foolproof) in preventing the spread of the AIDS virus during intercourse when used appropriately; and it is hard to believe, when condoms are among the perilously few defenses we have in limiting the spread of a killer, that someone could perceive silence as an ethically defensible stance. Not only do we not have national educational programs about this in the U.S., but many public laws — attempting to enforce an unreal morality — militate against prudent behavior.

What about drug users. And needles — how about free needles? As commonly happens with a good catch-phrase, the notion of "free needles" sets morals aflame and distorts the discussion. In the U.S. most states have laws which make it illegal even to *possess* injection apparatus, and it is contended that easy access to needles and syringes would encourage drug use! I don't know whether it would or not — some European countries have needle exchanges which have worked well and have not had that effect. Clearly the issue is not a simple one; but the fact is that drug use is the open avenue to the epidemic's future, and we simply do not know what impact such policies would have. Quarrelling about morality will not resolve the issue, and it is surely worth finding out. For these reasons, the Institute of Medicine/National Academy of Sciences study group recommended that this be put to experimental test.

The needle argument is a distraction, of course, from the shocking shame of our so-called "war on drugs." Some "moral" crusade, when no accommodation is made for prisoners of war! There are not now enough treatment slots in the United States to take care of those addicts who already want out, and this was true well before the bad news about AIDS hit the drug community. It has been said that warnings about AIDS haven't yet made an impact on drug users, but how would we know, when there is no opportunity for them to react? I believe we should not

consider our policies even vaguely rational with respect to the AIDS epidemic (not to mention the drug epidemic) until the treatment centers have openings going begging and until sexual partners of addicts are found, organized, and mobilized into self-help groups. My colleagues in the drug field tell me that there is nothing suicidal about drug users, that they are truly terrified and want help!

It is difficult to overemphasize the role drug users will play in the U.S. epidemic: the previously-mentioned expected increase in the percent of women involved will be largely due to drug use or sexual partnership with a drug user. More than 90 percent of pediatric AIDS in 1991 will be the direct or indirect result of drug use — and pediatric AIDS is a disaster beyond imagining, coupling as it does the sustained and desperate illnesses of immunodeficiency with the likelihood of orphan status, minority status, and neurologic decline. Even in the context of female prostitution, the likelihood of a prostitute being infected and therefore potentially infectious tracks dominantly with IV drug use.

Conclusion

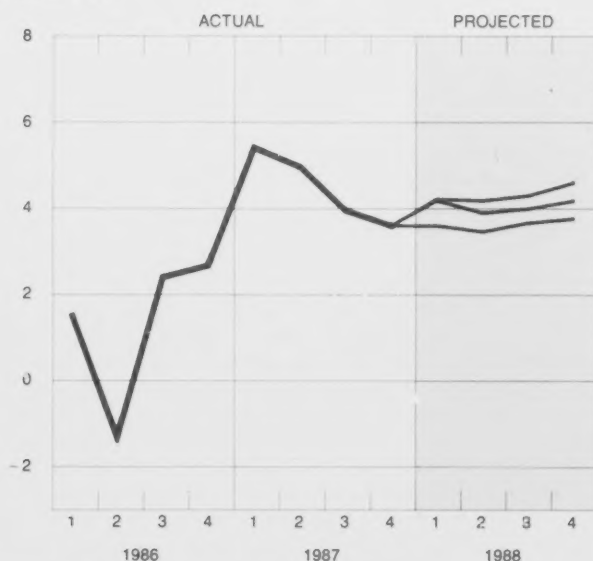
So those are some of the facts that should drive our public programs and should underlie our political decisions. Some of the necessary words are hard to say out loud in public, but one gets used to that; and the fas-

tidiousness that dictates against talking in plain language is predicated on the assumption that the situation is temporary, that this will all go away. It won't, of course, and the savvy politician doesn't have to feel very brave, for the future will bear out the wisdom of frank and sensible approaches. We must remind ourselves that, in looking at cases of AIDS, we are looking at a snapshot that was taken 5 to 10 years ago — for, as I mentioned, the incubation period is at least that long. While that picture from the past tells us what happened then, the glimpses of the present — coming, for instance, from the military's screening of volunteers — tell us that worse things are coming.

If we wait long enough before acting, the inefficiencies of heterosexual spread could be overcome in the U.S. and throughout the world, as they seem to have been from the start in Africa. Surely there will be ways that clever politicians can say that acceptably; and I am pleased to say that in recent weeks a number of powerful political figures in the U.S. have at last begun to stir and show signs of entering the fray in helpful ways (I am not referring to Messrs. Reagan, Bush, or Bennett). I can hardly wait, for there has been an almost ghostly silence from many responsible quarters thus far; and I worry, as does Jim Curran of the Centers for Disease Control, that in 1990 people will be shaking their fists at us saying "Why didn't you tell us?"

CONSUMER PRICE INDEX

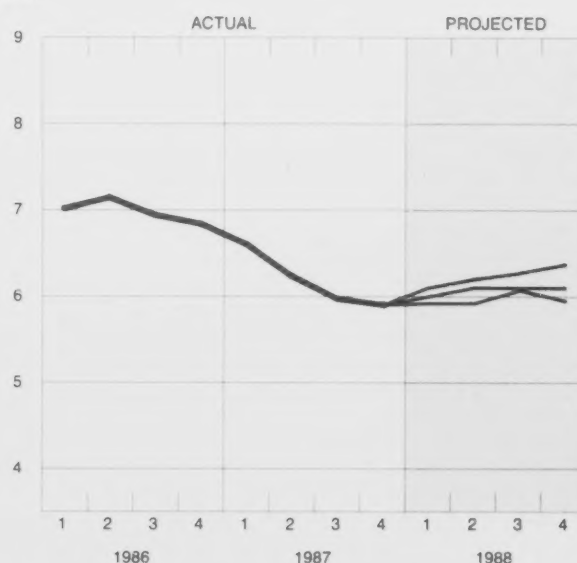
Percent Change
at Annual Rate



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

UNEMPLOYMENT RATE

Percent



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

The Distribution of Wealth in the U.S. Economy: Part 2

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Introduction

A previous article in this publication provided an overview of the size distribution of wealth holdings among U.S. households and provided a few details about the relationship between wealth holdings and household income. In this article we take a more detailed look at the structure of wealth holdings, including both the asset and liability sides of the balance sheet, and also examine evidence on the concentration of wealth holdings in the U.S.

General Characteristics of Wealth Holdings

The amounts of wealth held by various types of American households are of interest partly because of the potential influence that wealth has on spending behavior. Other things equal, a household with a given set of characteristics (income, age, orientation toward the future, etc.) and large wealth holdings is apt to have larger consumption than a similar household with smaller wealth holdings.

One useful way to describe the characteristics of household wealth holdings in the U.S. is to calculate the average amounts of wealth held by households with different incomes, distinguishing between the most widely held types of wealth and those types of assets or liabilities that are much less frequently owned. A useful distinction is to aggregate household wealth into three categories — con-

sumer durables (assets such as houses and cars); liquid assets such as checking and saving accounts, CDs, government savings bonds, money market funds, etc.; and all other assets (common stock, bonds, investment trusts, real property except for personal residences, ownership of a business or farm, etc.). In this tabulation, debts are netted against the appropriate asset category, so that the data for housing and cars show net equity rather than gross value; and other assets are reduced by household liabilities such as credit card debt, line of credit debt, unclassified loans, etc. Table 1 shows both the average amount in dollars and the percent distribution (in parentheses) of these three types of wealth holdings for households in the various income and age categories.

The basic message from this tabulation is both clear and unsurprising. Most of the asset holdings of households with annual incomes of under roughly \$50,000 are in the form of either equity in tangible assets (cars and houses) or liquid assets. While those under age 45 have much smaller asset holdings than those age 45 or older in each income category, the distribution of assets by type is roughly similar for households in the two age groups. But for households with incomes of (roughly) over \$50,000, which comprise about 10 percent of U.S. households, proportions of total asset holdings ranging from about a third to about a tenth are in the form of equity in tangible assets and liquid assets, while the bulk of their assets are in other

TABLE 1. Average Dollar Amounts of Net Worth and Components Held by Persons in Various Income Categories (Percent Distribution in Parentheses)

Income Class	Age Less than 45				Age 45 or More			
	Equity in Cars and Houses	Liquid Assets	Other Assets Less Other Debts	Net Worth	Equity in Cars and Houses	Liquid Assets	Other Assets Less Other Debts	Net Worth
Less than \$10,800	\$5,737 (54%)	\$569 (5%)	\$4,394 (41%)	\$10,700 (100%)	\$21,974 (53%)	\$3,949 (10%)	\$15,366 (37%)	\$41,288 (100%)
\$10,800-23,999	\$14,218 (56%)	\$2,377 (9%)	\$8,570 (34%)	\$25,166 (100%)	\$42,575 (49%)	\$16,077 (19%)	\$28,048 (32%)	\$86,700 (100%)
\$24,000-47,999	\$30,047 (48%)	\$5,501 (9%)	\$26,876 (43%)	\$62,424 (100%)	\$65,369 (43%)	\$22,808 (15%)	\$63,687 (42%)	\$151,864 (100%)
\$48,000-95,999	\$58,153 (37%)	\$15,567 (10%)	\$82,220 (53%)	\$155,940 (100%)	\$91,383 (26%)	\$37,016 (10%)	\$227,427 (64%)	\$355,826 (100%)
\$96,000-191,999	\$95,817 (23%)	\$41,214 (10%)	\$280,602 (67%)	\$417,633 (100%)	\$195,540 (19%)	\$81,152 (8%)	\$745,558 (73%)	\$1,022,250 (100%)
\$192,000 or More	\$262,937 (17%)	\$117,642 (8%)	\$1,126,571 (75%)	\$1,507,149 (100%)	\$341,851 (7%)	\$197,682 (4%)	\$4,117,563 (88%)	\$4,657,095 (100%)

forms — common stock, equity in a business or a farm, investments in real property, etc. By age, older households have substantially greater asset holdings than younger ones. Older households who have less than roughly \$50 thousand in income (the great bulk of older households) are also likely to have a larger proportion of their asset holdings in the form of equity in tangible assets plus liquid assets, especially the latter.

Financial Assets

The distribution of financial asset holdings by asset type varies substantially according to the household level of income. In Panel A of Chart 1 we show the average values of five types of liquid assets for households in different income categories, while in Panel B we show the distribution of five types of less liquid financial assets. The first set of categories includes checking accounts, money market funds and brokerage call accounts, savings accounts and credit union shares, certificates of deposit, and U.S. government savings bonds. The assets portrayed in the right half of the chart include corporate and foreign bonds, common stock and mutual fund shares, IRA or Keogh accounts, trust accounts, and other assets (principally the cash surrender value of life insurance policies).

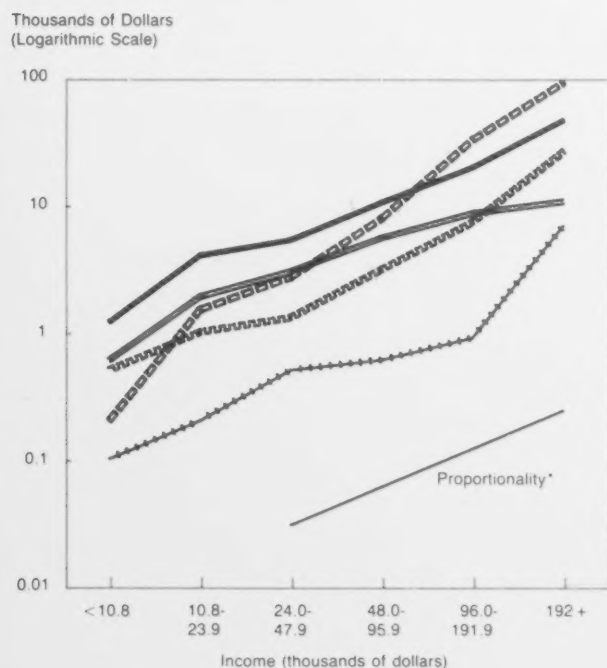
There are strikingly different sensitivities to income level with respect to holdings of the various types of liquid assets. Savings accounts and credit union shares show the

least response to differences in income levels, while money market funds and brokerage call accounts show the most. A simple summary measure of the income patterns is to calculate the proportion of total asset holdings of the various types that are held by households in the two highest income classes shown in the chart, corresponding to households with annual incomes in excess of about \$100,000. About two percent of U.S. households have incomes above that amount, and these households account for about 9 percent of total holdings of savings accounts and credit union shares but almost 40 percent of total holdings of money market funds and brokerage call accounts. Comparable figures for the other liquid asset categories are in between, with CDs being closer to savings accounts, and government savings bonds and checking accounts being closer to money market funds and brokerage call accounts.

The relationship between income level and ownership of less liquid financial assets is quite different. For these forms of assets, the rise in average wealth as the income level increases is much steeper than for any of the liquid asset categories, with the sole exception of assets held in the form of IRA or Keogh accounts — where the relationship with income is much like that of money market funds and brokerage call accounts. But for bonds, common stock and mutual fund shares, and trust accounts, average holdings rise much more steeply with income than was true for any of the liquid asset categories. The proportion

CHART 1. AVERAGE FINANCIAL ASSET HOLDINGS BY INCOME CLASS

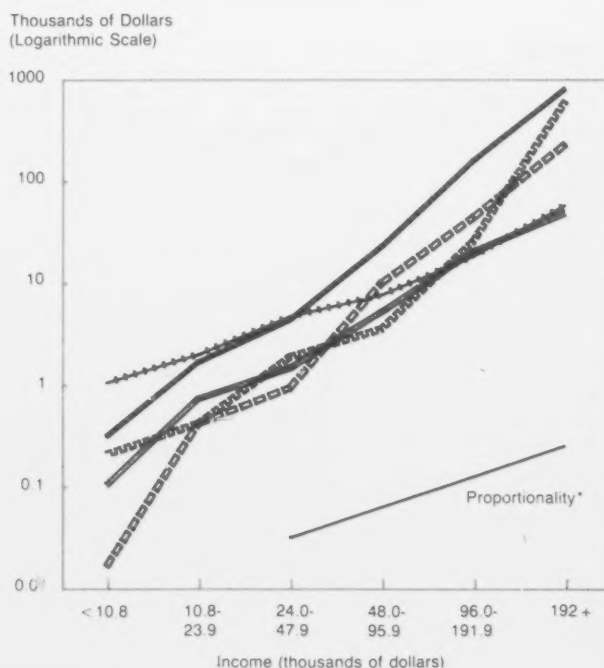
A. Relatively More Liquid Assets



— Certificates of Deposit — Savings Accounts
 ■ Money Market Funds — Gov't. Savings Bonds
 ~~~~~ Checking Accounts

\*The slope of this line indicates equal percent changes on both axes.

### B. Relatively Less Liquid Assets

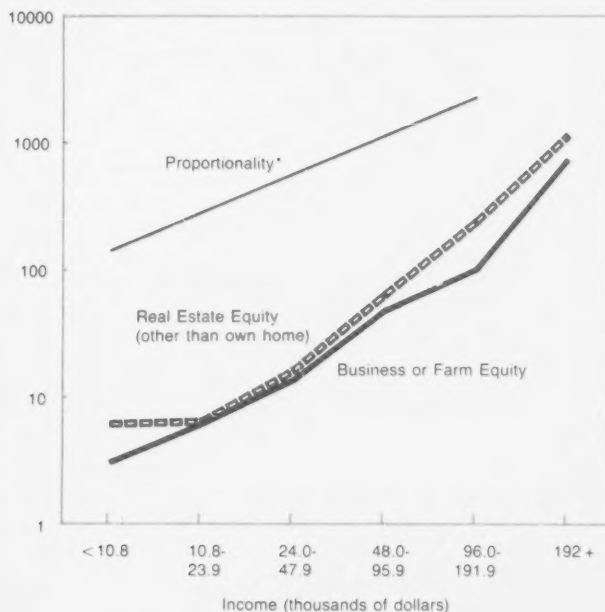


— Common Stock      — IRA and Keogh Accounts  
 ■ Corporate Bonds      — Other Financial Assets  
 ~~~~~ Trust Accounts

*The slope of this line indicates equal percent changes on both axes.

CHART 2. Average Real Investment Asset Holdings by Income Class

Thousands of Dollars
(Logarithmic Scale)



*The slope of this line indicates equal percent changes on both axes.

of such assets held by households in the two highest income groups — those with annual household incomes in excess of roughly \$100,000 — is about 68 percent for bonds and common stocks and over 80 percent for trust accounts. Thus the degree of concentration in holdings of these financial assets is very substantial.

"Real" Investment Assets

An important component of wealth for many households is their ownership of real investment assets — real estate investments other than the household's own home, and ownership or part ownership of a business or farm. Altogether, these types of assets make up about a third of total household net worth, and they are distributed among income classes as indicated in Chart 2.

Roughly speaking, the relationship between these types of assets and income class is somewhere between the pattern described above for liquid financial assets and the pattern for the less liquid financial assets. Almost half the total holdings of both real estate investment assets and ownership of businesses or farms is represented by the holdings of households in the two highest income classes, in contrast to the roughly 20 percent of liquid assets owned by households in those groups and the roughly 60 percent of other financial assets owned by such households. What generally seems to be the pattern for assets in this category is that the average value of holdings is likely to be much greater than financial assets like bonds and stocks in the lower income categories, but about the same in the highest income categories — thus the differential association with income.

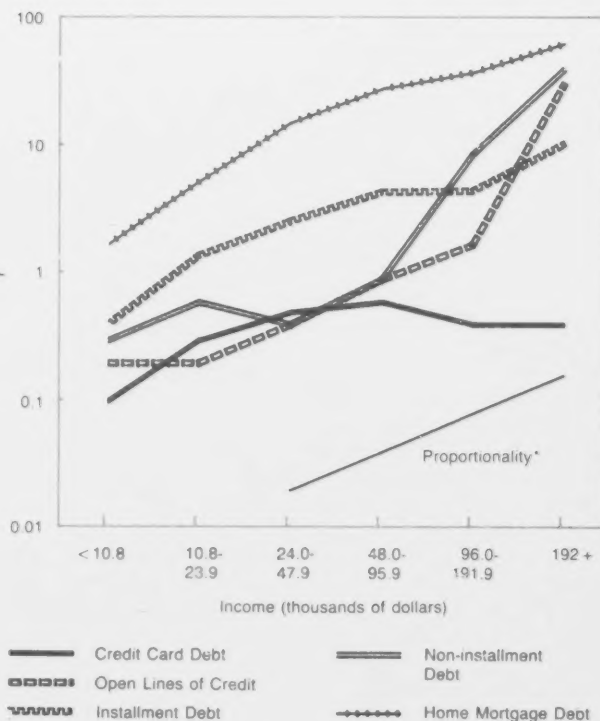
Debt

One might suppose that the distribution of debt among households in the U.S. would look very different than the distribution of assets. Since debt usually involves paying a higher interest cost than is obtainable from the yields on most assets, it might be thought that households with substantial amounts of assets are likely to have little or no debt, while households that have debt are likely to be ones that lack the assets to make outright purchases. While that general picture tends to be more or less true of certain types of debt, it is clearly not true generally.

Chart 3 shows the pattern of average debt outstanding for households in the different income categories, dividing debt into credit card debt, open lines of credit, installment and non-installment debt that is close-ended in nature, and mortgage debt. The only two debt categories that show an actual decline in average amounts of debt outstanding in the higher income groups are credit card debt and automobile installment debt (not shown in the figure). But debt incurred on open lines of credit and non-installment debt show about the same relationship to income as holdings of real investment assets and holdings of financial assets like stocks and bonds, while installment debt shows about the same relationship to income as was found for savings accounts or certificates of deposit. Not surprisingly, real estate debt has about the same income pattern as real estate holdings, although it rises somewhat less strongly than the latter.

CHART 3. Average Debt Outstanding by Income Class

Thousands of Dollars
(Logarithmic Scale)



*The slope of this line indicates equal percent changes on both axes.

Wealth Concentration

Studies of the degree of concentration of wealth have been of great interest to both economists and policy-makers for many decades. Because wealth is so hard to measure, especially the wealth holdings of the very wealthy, most such studies have been based on data from estate tax filings, using mortality rates to go from a sample of the deceased (estate tax filers) to a representation of the wealth of the living.

From the survey data described above, it is possible to estimate the degree of wealth concentration, although not with a high degree of precision. One difficulty is the simple fact that the single largest wealth figure obtained in the survey is not nearly large enough to represent what is known (from external sources) about the wealth holdings of the wealthiest U.S. households. For example, the lower limit of the estimated wealth of the richest U.S. households from such sources as *Forbes* (the 400 richest people in America — the *Forbes* 400) is several times higher than

the largest wealth figure obtained in the survey. Hence the calculation from the survey data is bound to be an underestimate of the actual degree of concentration, although not necessarily by a large amount given the tiny number of households in the "extremely wealthy" category.

The data on wealth concentration that can be obtained from the survey can be summarized by the calculations that a little over 30 percent of total household wealth is owned by the top one percent of wealth-holders, almost two-thirds is owned by the top 10 percent, and the remaining third is owned by the bottom 90 percent. These percentages do not appear to be much different than similar estimates for earlier decades. However, these wealth data relate to the early part of 1983. There have been substantial gains since then in the relative importance of common stock in total wealth holdings, and common stock ownership is very heavily concentrated among wealthy households. Thus a survey of current wealth holdings would almost certainly show a higher degree of concentration than the data examined above.

Update on the U.S. Economy

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On the evidence to date, the U.S. economy has weathered the storm created by the financial panic last October, and is likely to resume a modest upward path of economic growth after a sluggish first quarter in 1988. In brief, what seems to have happened is that:

1. While consumer spending tailed off substantially in the fourth quarter of 1987, presumably because of the uncertainty associated with the stock market crash in October, consumption now seems likely to resume its modest upward path during the balance of 1988.
2. The uneasiness among consumers, reflected by the sharp decline in consumer optimism in the fall, appears to have been fully dispelled — by February, the Index of Consumer Sentiment had recovered all of the sharp decline caused by the market crash.
3. While the strong fourth quarter 1987 increase in real GNP was largely the result of inventory accumulation caused by weak consumer spending, that effect will be largely worked off after the first quarter of 1988.
4. On balance, other sectors of the economy seem to have been largely unaffected by the events of last year — the real trade balance is continuing to improve (although more slowly than many would like), the public sector will be a little weaker this year, and private investment looks to be about what was expected, with some weakness in housing being offset by strength elsewhere.

Overall, it now looks as if the great crash of 1987 will be recorded as an interesting non-event — not that stock prices didn't have the sharpest one-day decline in history,

but there appears to have been very little cumulative consequence of that event on the real economy. The major concern here always was that consumers would react sharply and push the economy into recession, but that depended on a scenario where the uncertainty induced by the stock price decline was followed by adverse changes in the real economy, leading consumers to believe that their initial concerns about the future of the economy were well founded. Instead, the Federal Reserve Board acted quickly to allay concerns, interest rates dropped sharply, and the economic events that consumers interpret as signals about the economy — prices, employment, unemployment, interest rates, etc. — gave no indication that there was trouble ahead. Thus consumers appear to have concluded that the stock price decline was an event whose only impact was to wipe out a few speculators on Wall Street, but that it didn't mean anything for them. Thus their hesitation in late 1987 was replaced by "back to normal" behavior in 1988.

That result comes as a surprise to many analysts, including this writer. Of course, it is also true that the real problems that the economy has shown over the last couple of years have not disappeared. We still have a massive trade deficit, the budget deficit is in not much better shape than it was, and the dollar continues to be weak with its mixture of plus and minus implications for the economy. Further, U.S. competitiveness in world markets, the low rate of productivity growth, and the low rate of personal saving continue to be sources of concern. But these are longer-term problems, and they will certainly not be ameliorated in an election year. The next president will have lots to worry about and, unfortunately, precious few degrees of freedom.

An International Perspective on the Income and Poverty Status of the U.S. Aged*

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Introduction

The income of the aged in the United States has increased significantly in real terms since 1970. This increase is due in part to substantial increases in social security benefits and in part to the better wage histories of those who are now retired compared to the retired of 15-20 years ago.

The trend toward an improved economic status for the aged in the United States is not an isolated phenomenon; it has occurred in the five other industrial countries examined in this paper. In fact, the increase in incomes for the aged in the United States in the 1970s may actually be less than occurred elsewhere. Nevertheless, the income of the U.S. aged is higher relative to the national average income than similar ratios in any of the other countries examined. At the same time, the U.S. elderly have more income inequality than the elderly of the other five countries examined, and — because of this income inequality — the U.S. elderly also experience more poverty than the aged in every country but one.

Most of the data in this paper comes from the Luxembourg Income Study (LIS), which has created comparable national income microdata files for nine countries for the years 1979 or 1981. Thus, the LIS comparisons of the aged in these countries are cross-sectional. In order to provide a broader context for the cross-sectional discussion, this paper briefly summarizes recent income trends for families in general and the aged in particular in several countries, drawing from the International Data Base on Aging produced by the U.S. National Institute on Aging and the U.S. Bureau of the Census' Center for International Research (NIA/CIR).

We begin by discussing trends in social security benefit increases in the six LIS countries and changes in labor force participation of the aged in those countries. These trends and changes have been the antecedents to the detailed picture the LIS data provides of the income of the aged in the 1979-81 period — aged income relative to the national income, income distribution among the elderly, and the resulting poverty rates.

Trends in Family Income

Incomes for elderly households have increased substantially in the three countries for which time series data are available. However, the available data in each country are not for the same years, and definitions of the aged differ — from households with a reference person age 65 and over in the United States and Canada to those single elder-

ly who are retired in the United Kingdom. These inter-temporal comparisons, therefore, create broad-brushed impressions rather than well-focused photographs of the income changes for the general and aged population over a 10-year period. Given the limitations of these data and the imprecision of the comparisons, small differences in either levels of income or changes in those levels should not be emphasized. But they do provide a useful perspective for better understanding income trends in the United States.

In the three countries studied, the income of the aged increased slightly more than the general family income in Canada but substantially more in both the United Kingdom and the United States (Table 1). In the United Kingdom, income of the retired could be calculated only for retired one-adult families, but the increase for this type of family income was more than three times as great as for family income in general. In the United States, as in other economies, increases in income are particularly sensitive to the time span used. Yet, regardless of the selection of different end points, the increase in income of aged households is much higher than that of all households in the United States. In fact, during the period 1973-84, overall U.S. income fell by 8.7 percent, while the income of the aged rose by more than one-fifth. Moreover, were we to compare increases in the income of the aged to those for other "dependent" family types, such as single-parent families, the improvement in aged incomes would be even more dramatic in all three countries, but especially in the United States.

Increases in Social Security Benefits

A large part of the improvement of the incomes of the aged in real terms and relative to the incomes of the rest of

TABLE 1. Percent Change in Income by Type of Family for Selected Countries

| Country | Average Real Household Income Changes | | |
|----------------|---------------------------------------|-------|-------|
| | Time Frame | All | Aged* |
| Canada | 1970-80 | +28.5 | +30.2 |
| United Kingdom | 1973-84 | +6.9 | +23.2 |
| United States | 1970-80 | +0.4 | +20.1 |
| | 1973-84 | -8.7 | +21.3 |

*Households with a reference person age 65 or over for Canada and the United States; retired one-adult households for the United Kingdom.

Sources: *Changes in Income*, Statistics Canada, 1985. Family Expenditure Surveys, 1973, p. 86; 1984, p. 64; Department of Employment, Government Statistical Service (United Kingdom). United States *Current Population Surveys*, various years.

*This paper, which is adapted from a presentation to the American Economic Association in December 1986, has not had the detailed statistical review usually given to publications that use U.S. Bureau of the Census data. The views of the authors are not necessarily the views of the U.S. Bureau of the Census or Vanderbilt University.

the population (Table 1) derives from social security benefit increases (in real terms) in every country examined except Germany. Not only have social security benefits increased relative to inflation, but benefits as a percent of average wages in manufacturing have also risen. As seen in Table 2, increases in this ratio have occurred for both the single worker and the aged couple in every country except Germany. And the gain for single workers has been greater than that for couples, except in the United States. Among aged couples, the ratio of social security benefits to the average earnings in manufacturing in 1980 varied from 47 percent in the United Kingdom to 83 percent in Sweden. Canada and Germany replaced approximately half of these average earnings through their social security pension programs, while the United States replaced two-thirds. The increase in replacement rates of the social security systems in most countries represents an important and dependable improvement in economic security for retired populations.

Declines in Labor Force Participation Rates

The increased generosity of retirement programs has had a predictable effect on labor force participation rates: for persons age 60 or older they have generally declined since 1960 in the countries examined in Table 3. Because male participation rates were much higher initially, the decline has been more pronounced for men than for women. Among those age 55-59 years, male rates show a fairly modest decline since 1960 in every country except Japan. In the age group 60 to 64 years, the declines increase substantially. Among men age 65 and over, however, the decline has continued to be substantial even in Japan, which has the highest participation rates of all countries examined here.

The relatively recent general increase in the number of women in national labor forces has meant that female participation rates for ages 55 to 59 have actually increased since 1960 in every country examined. And in some countries their increases more than offset the decline in male rates at this age. Even in the age group 60 to 64 years, women's participation rates increased in four of the seven countries. For women age 65 and over, participa-

tion rates have declined in every country, though again by less than those for males.

Although the pattern of declines in labor force activity is fairly consistent across countries, the range in levels of participation can be enormous. Even though income of the aged in Japan is not a major focus of this paper, data on labor force participation rates in Japan are included here for contrast. Japan's "retirement age" is 55 years, but nearly half of elderly (age 65 and over) Japanese men were economically active in 1980, a rate more than six times higher than that of France and Sweden. Likewise, elderly Japanese women are much more likely than other nationalities to be in the labor force. Such high rates result from the fact that many Japanese retirees take part-time jobs and hence remain in the labor force on a reduced basis.

In 1982 aged males and females in the United States had higher labor force participation rates than those in any other country examined except Japan. This is despite the fact that the United States has an earnings test on its social security benefits and most other countries do not. In the United States, if people under age 72 earn more than a certain income, they are not considered fully retired; therefore, their social security benefits are reduced. The United Kingdom is the only other country with a retirement test that continues (for men) beyond age 65.

The retirement test theoretically creates a disincentive to work for people above retirement age. Thus, it is curious that the United States, with an earnings test, still has a higher labor force participation rate among people age 65 and over than do many other countries. In Germany and Sweden, with no earnings test, aged male labor force participation rates are less than half that in the United States.

Recent Economic Status of the Aged

The recent income levels of the aged in various countries are in part the net result of the trends discussed above. The increase in social security benefits and the accompanying decrease in labor force participation rates means that income from social security has increased over time for the aged, and income from earnings almost cer-

TABLE 2. Social Security Old-Age Pensions as a Percent of Average Wages in Manufacturing, 1969, 1975, and 1980

| Country* | Single Worker | | | | Aged Couple | | | |
|----------------|---------------|------|------|----------------------------|-------------|------|------|----------------------------|
| | 1969 | 1975 | 1980 | Percent Increase 1969-1980 | 1969 | 1975 | 1980 | Percent Increase 1969-1980 |
| Canada | 24 | 33 | 34 | 41.7 | 41 | 47 | 49 | 19.5 |
| West Germany | 55 | 51 | 49 | -10.9 | 55 | 51 | 49 | -10.9 |
| Sweden | 42 | 57 | 68 | 61.9 | 56 | 73 | 83 | 48.2 |
| United Kingdom | 27 | 31 | 31 | 14.8 | 43 | 47 | 47 | 9.3 |
| United States | 30 | 38 | 40 | 33.3 | 44 | 58 | 66 | 50.0 |

*Data from Norway are not available.

Sources: Leif Haanes-Olsen, "Earnings Replacement Rate of Old-Age Benefits, 1965-75, Selected Countries," *Social Security Bulletin*, January 1978, pp. 3-14; and Jonathan Aldrich, "The Earnings Replacement Rate of Old-Age Benefits in 12 Countries, 1969-80," *Social Security Bulletin*, November 1982.

TABLE 3. Labor Force Participation Rates, by Sex, for Selected Age Groups and Years

| Country and Year | Males | | | Females | | |
|------------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| | Age 55 to 59 | Age 60 to 64 | Age 65 and Over | Age 55 to 59 | Age 60 to 64 | Age 65 and Over |
| Canada | | | | | | |
| 1961 | 86.7 | 75.8 | 28.5 | 27.9 | 20.3 | 6.7 |
| 1971 | 84.9 | 74.1 | 23.6 | 38.7 | 29.1 | 8.3 |
| 1981 | 84.4 | 68.8 | 17.3 | 41.9 | 28.3 | 6.0 |
| 1961-81 Change | -2.3 | -7.0 | -11.2 | +14.0 | +8.0 | -0.7 |
| West Germany | | | | | | |
| 1961 | 88.7 | 72.5 | 22.8 | 32.2 | 21.0 | 8.4 |
| 1970 | 86.8 | 68.8 | 16.0 | 34.5 | 17.7 | 5.7 |
| 1980 | 82.3 | 44.2 | 7.4 | 38.7 | 13.0 | 3.0 |
| 1961-80 Change | -6.4 | -28.3 | -15.4 | +6.5 | -8.0 | -5.4 |
| Japan | | | | | | |
| 1960 | 89.5 | 81.9 | 54.5 | 45.8 | 39.1 | 21.4 |
| 1970 | 94.2 | 85.8 | 54.5 | 53.8 | 43.3 | 19.7 |
| 1980 | 94.0 | 81.5 | 46.0 | 50.7 | 38.8 | 16.1 |
| 1960-80 Change | +4.5 | -0.9 | -8.5 | +4.9 | -1.3 | -5.3 |
| Norway | | | | | | |
| 1960 | 95.0 | 88.1 | 37.7 | 27.0 | 23.1 | 7.6 |
| 1970 | 91.4* | 73.6† | 15.7‡ | 46.8* | 28.0† | 3.7‡ |
| 1980 | 87.7* | 62.7† | 12.6‡ | 61.0* | 32.2† | 2.9‡ |
| 1960-80 Change | -7.3 | -25.4 | -25.1 | +34.0 | +9.1 | -4.7 |
| Sweden | | | | | | |
| 1960 | 92.3 | 82.5 | 27.1 | 31.8 | 21.5 | 4.6 |
| 1970 | 88.4 | 75.7 | 15.2 | 41.1 | 25.7 | 3.2 |
| 1980 | 84.4 | 65.9 | 8.1 | 66.4 | 41.4 | 2.6 |
| 1960-80 Change | -7.9 | -16.6 | -19.0 | +34.6 | +19.9 | -2.0 |
| United Kingdom | | | | | | |
| 1961 | — | — | 24.7 | — | — | 5.4 |
| 1971 | 95.1 | 86.4 | 19.4 | 50.7 | 27.8 | 6.4 |
| 1981 | 91.5 | 74.6 | 10.7 | 52.0 | 22.5 | 3.7 |
| 1971-81 Change | -3.6 | -11.8 | -8.7 | +1.3 | -5.3 | -2.7 |
| United States | | | | | | |
| 1960 | 87.7 | 77.6 | 30.5 | 39.7 | 29.5 | 10.3 |
| 1970 | 86.8 | 73.0 | 24.8 | 47.4 | 36.1 | 10.0 |
| 1982 | 81.1 | 57.9 | 17.7 | 50.2 | 34.2 | 7.9 |
| 1960-82 Change | -6.6 | -19.7 | -12.8 | +10.5 | +4.7 | -2.4 |

*Refers to age 50 to 59 years. †Refers to age 60 to 69 years. ‡Refers to age 70 years and over.

Sources: U.S. Bureau of the Census International Data Base on Aging; International Labour Office, *Year Book of Labour Statistics* 1967, Geneva, table 1.

tainly has fallen. Unfortunately, there is no good source of data on how the composition of income for the aged has changed over time. The only comparable international microdata on income and its composition come from the Luxembourg Income Study.

As noted earlier, the LIS is a cross-sectional comparison¹ of income data from national household surveys taken in several different countries between 1979 and 1981. The data from these surveys were adjusted for definitional differences of both income and housing units. The LIS data base currently includes the six countries used in this analysis (Canada, Norway, Sweden, the United Kingdom, the United States, and West Germany); it also includes Israel, Australia, and Switzerland. Israel's economic situa-

tion is so anomalous compared with the other countries that it is not included here, while data from Australia and Switzerland are just now becoming available and could not be included in this paper. Each national survey covers at least 92 percent of the noninstitutionalized population, 96 percent excluding Germany. While some ethnic groups, such as Laps in Norway or Aleuts in the United States, have too small sample sizes to be representative, the age cohorts which are our major concern in this paper are well represented.

The LIS data set contains 35 income and tax variables and 30 demographic variables, allowing researchers to define income as called for in their studies. The income concept used in Tables 4, 6, and 7 of this paper is dis-

posable family income. It includes all forms of cash income (earnings, property income, all cash transfers) net of direct taxes (that is, employer and employee payroll taxes and income taxes). In Table 5 we examine the composition of gross (before direct tax) cash income among the elderly.

The household income variables can be further adjusted for differences in family size and composition. The equivalence scale employed in Tables 4 and 6 is positioned between per-capita income, which counts each person in a three-person family as .33 equivalent adults, and household income unadjusted for the number of people in the household. It counts the first person as one equivalent adult and adds .50 equivalent adults for each additional person. While the equivalence scale is simplistic in nature, it is virtually identical to that used by the Organization for Economic Cooperation and Development (OECD) and some other researchers. Adjusted income is calculated by dividing disposable income by the equivalence scale appropriate to each family size and age composition. The equivalence scale is normalized to a family of three persons (thus, the factor for this unit is 1.00).

Age and Average Income

In every country except Germany, average household income is highest in the 55 to 64 age group. Then there is a significant decline in income in the 65 to 74 age group, when most people retire. Table 4 compares after-tax and after-transfer income by age of household head for the 1979-81 period in six countries. Because most aged households are smaller than non-aged households, household income is adjusted for the size of the household using the LIS equivalence scale.

As can be seen, persons age 65 to 74 appear to have slightly lower income than non-aged households but on average have 92 percent of the national mean income. The countries that have relatively high average income in this age group are also the countries that tend to have high labor force participation rates. The two countries with low average income, Germany and the United Kingdom, also

have fairly low labor force participation rates. However, Norway and Sweden also have low participation rates, but a high relative income for people age 65 and over, suggesting that their pensions are very generous. The income of people age 75 and over is, on average, 14 percentage points lower than the income of the 65 to 74 age group. Households with heads age 75 and over have the lowest incomes of all households of any age group except for very young families in the United States. The ratio of mean income of the elderly to mean income of the total population is highest in the United States, which has the second highest ratio for the 65 to 74 age group and the highest for the 75 and over age group.

Sources of Income of the Aged

The sources of income of the aged differ both by age of the household head and by country. Table 5 shows the relative importance of public pensions, private pensions, property income, and earnings in the recent income of the aged in our six countries. The role of social insurance transfers increases with the age of the recipient in every country examined. By the time people are 65 to 74 years old, social insurance transfers provide two-thirds to three-fourths of their income in Germany and Sweden. In the other countries the role of social insurance as a percent of total income varies from 35 to 46 percent. By age 75 and over, however, social insurance transfers provide at least 75 percent of the income in three of the six countries; in Canada and the United States they provide 45 percent of total income.

Earnings play a more important role in the average income of the aged 65 to 74 years old than many people suspect. And, of course, earnings play a more important role in those countries that have relatively higher labor force participation rates. For the age group 75 years and over, earnings play a very small role; and the decline in this role partly explains the decreased average income of that age group relative to those 65 to 74 years old.

It is also interesting to note that the proportion of welfare benefits (means-tested transfers) in the average in-

TABLE 4. Ratio of Adjusted Disposable Household Income* to National Mean for Selected Age Groups and Countries

| Country (Year) | Age of Household Head | | | | | | |
|-----------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|
| | Less Than
25 Years | 25 to 34
Years | 35 to 44
Years | 45 to 54
Years | 55 to 64
Years | 65 to 74
Years | 75 Years
and Over |
| Canada (1981) | .87 | .96 | .96 | 1.11 | 1.15 | .94 | .81 |
| West Germany (1981) | .86 | .88 | .94 | 1.30 | 1.07 | .85 | .79 |
| Norway (1979) | .81 | .96 | .99 | 1.04 | 1.18 | 1.01 | .79 |
| Sweden (1981) | .86 | 1.00 | .98 | 1.12 | 1.17 | .96 | .78 |
| United Kingdom (1979) | .99 | .97 | .97 | 1.20 | 1.17 | .76 | .67 |
| United States (1979) | .77 | .93 | .95 | 1.13 | 1.21 | .99 | .84 |
| Six-Country Mean | .88 | .96 | .96 | 1.13 | 1.17 | .92 | .78 |

*Disposable income is post-tax-and-transfer income. The adjustment of disposable income for family size is done using the LIS equivalence scale discussed in the text.

Source: Luxembourg Income Study.

TABLE 5. Composition of Gross Income of Elderly Households in Selected Countries

| Country and Age Group of Household Head | Income before Tax | | | | | Other Income | Total |
|---|-------------------|-----------------|----------------------|----------------------------|------------------------|--------------|-------|
| | Earnings | Property Income | Occupational Pension | Social Insurance Transfers | Means-tested Transfers | | |
| Canada (1981) | | | | | | | |
| 55 Years and Over | 56 | 17 | 6 | 18 | 2 | 1 | 100 |
| 65 to 74 Years | 28 | 22 | 12 | 35 | 2 | 1 | 100 |
| 75 Years and Over | 13 | 30 | 8 | 45 | 2 | 2 | 100 |
| West Germany (1981) | | | | | | | |
| 55 Years and Over | 43 | 2 | 8 | 46 | 1 | 0 | 100 |
| 65 to 74 Years | 17 | 2 | 12 | 67 | 1 | 0 | 100 |
| 75 Years and Over | 8 | 4 | 12 | 75 | 1 | 0 | 100 |
| Norway (1979) | | | | | | | |
| 55 Years and Over | 61 | 5 | 3 | 30 | 0 | 0 | 100 |
| 65 to 74 Years | 41 | 6 | 7 | 45 | 0 | 1 | 100 |
| 75 Years and Over | 6 | 8 | 10 | 75 | 1 | 1 | 100 |
| Sweden (1981) | | | | | | | |
| 55 Years and Over | 39 | 7 | — | 51 | 3 | 0 | 100 |
| 65 to 74 Years | 12 | 9 | — | 76 | 3 | 1 | 100 |
| 75 Years and Over | 2 | 13 | — | 78 | 7 | 1 | 100 |
| United Kingdom (1979) | | | | | | | |
| 55 Years and Over | 54 | 7 | 8 | 28 | 3 | 0 | 100 |
| 65 to 74 Years | 26 | 9 | 15 | 46 | 3 | 1 | 100 |
| 75 Years and Over | 17 | 10 | 12 | 54 | 7 | 0 | 100 |
| United States (1979) | | | | | | | |
| 55 Years and Over | 58 | 13 | 8 | 19 | 1 | 0 | 100 |
| 65 to 74 Years | 32 | 18 | 13 | 35 | 2 | 0 | 100 |
| 75 Years and Over | 17 | 24 | 12 | 45 | 2 | 0 | 100 |

Source: Lea Achdut and Yosi Tamir, "Comparative Economic Status of the Retired and Nonretired Elderly," Luxembourg Income Study-CEPS Working Paper No. 5, Luxembourg, July 1985.

come of the aged is remarkably small. This does not mean that there are no aged who are poor. Rather, it suggests that the aged in the countries studied who are eligible for welfare benefits have relatively low participation rates in welfare programs. As a result, the total benefit amount given to the poor aged is small.

There is a wide variance in annual property (or capital) income — interest, rent, dividends, and annuity income — among the elderly across these six countries. The Germans and Norwegians have little income from capital according to the LIS databases, while Canadian and U.S. elderly have much more property income. In all countries the proportion of income from capital increases with age.

Finally, occupational pensions from private or public employers in all of the countries provide only 10 to 15 percent of the average income of the elderly. Several countries are making private pension benefits mandatory, which may affect their future role in the income security of the aged. But private pensions in the early 1980s were not a major source of income in any country.

Income Inequality

The U.S. elderly have by far the highest level of income inequality compared with their peers in other countries, as shown in Table 6. Income inequality increases when

moving from the 65 to 74 age group to the 75 and over age group only in the United States and Germany; income inequality is less for the oldest age group in all other countries. The Gini ratio for the very elderly in the United States is .355, 25 percent larger than the .282 ratio in Germany. At the other end of the spectrum, Swedish and Norwegian income inequality among the elderly is very low. Canadian and German elder inequality ratios are closer to U.S. levels, though still far below.

Poverty Status

Poverty among the elderly is the result of both the level of average income and the degree of income inequality that exists within the aged cohorts. Even though the U.S. elderly have a high average income relative to the other countries, the percentage of U.S. elderly with low incomes (defined as adjusted income less than one-half the median income) is higher than that in any other country except the United Kingdom (Table 7). This paradox of high mean income and larger numbers of low income elderly is because of the distribution of the elderly around the mean as measured in Table 6. If, however, the official U.S. absolute poverty measure is used, then the poverty rate is considerably less than the rate of elderly who have low income. Both Norway and the United Kingdom have higher

TABLE 6. Gini Coefficients* for Distribution of Adjusted Disposable Income, for Selected Age Groups and Countries, 1981

| Country | Age Group | | | | | | | Total |
|------------------|--------------------|----------------|----------------|----------------|----------------|----------------|-------------------|-------|
| | Less than 24 Years | 25 to 34 Years | 35 to 44 Years | 45 to 54 Years | 55 to 64 Years | 65 to 74 Years | 75 Years and Over | |
| Canada | .332 | .295 | .285 | .286 | .296 | .309 | .291 | .299 |
| West Germany | .304 | .267 | .317 | .452 | .342 | .258 | .282 | .340 |
| Norway | .296 | .249 | .214 | .229 | .229 | .250 | .229 | .243 |
| Sweden | .236 | .209 | .192 | .216 | .195 | .143 | .126 | .205 |
| United Kingdom | .279 | .264 | .253 | .246 | .253 | .266 | .240 | .273 |
| United States | .345 | .313 | .304 | .303 | .331 | .342 | .355 | .326 |
| Six-Country Mean | .299 | .266 | .261 | .289 | .274 | .261 | .253 | .281 |

*Higher Gini coefficients indicate more income inequality.

Source: Peter Hedstrom and Stein Ringen, "Age and Income in Contemporary Society," Luxembourg Income Study-CEPS Working Paper No. 4, Luxembourg, September 1985.

levels of poverty (U.S. definition) than the United States, while the German poverty rate is virtually the same.

In four of the six countries examined (Germany, Norway, Sweden, and the United Kingdom), the U.S. poverty line (converted into the appropriate national currency using OECD purchasing power parities) was higher than one-half the adjusted median income, and therefore the poverty rates were higher than the low income rates. In the United States and Canada the poverty line was lower than one-half the median income line, resulting in lower poverty rates.

Comparing these (relative) low income and (absolute) poverty rates across countries for the aged as a whole, wide differences can sometimes be noted. For instance, in Norway only 5.6 percent of the elderly were below the low income line. However, once the low income line was raised by 5.8 percent to the U.S. poverty line, 18.7 percent were poor. Coupled with the low degree of inequality among the Norwegian elderly in Table 6, it is clear that there are fairly large numbers of elderly persons clustered around half of adjusted median income. The situation in the United Kingdom seems to be much the same.

TABLE 7. Absolute Poverty among the Aged in Selected Countries

| Country (Year) | Adjusted Absolute Poverty Line as Percent of Median Adjusted Income* | Relative Low Income Rates† | | | U.S. Absolute Poverty Rates‡ | | | Percent of Absolute Poor Who Are Single Women Living Alone | |
|-----------------------|--|----------------------------|--------------|-----------------|------------------------------|--------------|-----------------|--|-----------------|
| | | Age 65 and Over | Age 65 to 74 | Age 75 and Over | Age 65 and Over | Age 65 to 74 | Age 75 and Over | Age 65 to 74 | Age 75 and Over |
| Canada (1981) | 39.5 | 17.2 | 13.7 | 23.9 | 4.8 | 4.0 | 6.2 | 41.4 | 68.7 |
| West Germany (1981) | 56.0 | 11.1 | 8.1 | 14.2 | 15.4 | 12.5 | 20.4 | 45.6 | 70.4 |
| Norway (1979) | 55.8 | 5.6 | 3.1 | 9.0 | 18.7 | 10.8 | 29.3 | 63.9 | 70.5 |
| Sweden (1981) | 51.2 | 0.8 | 0.5 | 1.3 | 2.1 | 0.8 | 4.0 | 2.0 | 66.1 |
| United Kingdom (1979) | 52.9 | 29.0 | 24.1 | 39.1 | 37.0 | 31.5 | 48.5 | 46.8 | 60.1 |
| United States (1979) | 42.1 | 23.9 | 19.8 | 31.7 | 16.1 | 13.4 | 21.5 | 46.0 | 59.6 |

*Each country's disposable income is divided by the number of equivalent adults normalized to a 3-person family using U.S. poverty line equivalence scales to arrive at adjusted income. This column displays the ratio of the 3-person U.S. poverty line for the given year to the median adjusted income in each country.

†Relative low income rates are the percentages of persons of a given age living in families with adjusted incomes less than 50 percent of each country's median adjusted income.

‡U.S. absolute poverty rates are the percentages of persons of a given age living in families with adjusted incomes less than the official U.S. 3-person poverty line for the given year, where the U.S. poverty line was converted to other currencies using OECD purchasing power parity indexes for the appropriate year.

Source: Luxembourg Income Study.

Perhaps of more interest are the low income and poverty rates for the 75 and over age group as compared to the 65 to 74 year old elderly. In every country in Table 7, the older group's low income and poverty rates are higher than those of the younger aged by a substantial amount. Moreover, the percentage of all poor elderly who are single women living alone is very high and increases with age. In every country examined, between 60 and 70 percent of the poor age 75 and over are single women living alone (last column of Table 7). If we were to add elderly females living in couples or in other arrangements (for example, with children in extended families), the percentages shown for the 75 and over age group would rise to between 70 and 80 percent for each country.

Economically Disadvantaged Aged

As seen in Table 4, the average household income of people 65 years and over in the six countries examined is roughly 75 to 90 percent of the national household income of those countries. The United Kingdom has the lowest aged household income relative to the average, while the United States and Norway have the highest. But the averages obscure the more important issue of who within the aged population need more economic support than they are now getting. The data in Table 4 suggest that the oldest old have less income than the recently retired. These are the people who often no longer have any option of working even part time to supplement their retirement pension. And their pension, if based on past wage histories, is lower than the pensions of the recently retired, because wages in the more distant past were generally lower than wages in the near past. Coupling this information with the low income and poverty rates in Table 7 indicates that the most economically needy aged are in the oldest age group.

This comparative analysis suggests that the elderly are more heterogeneous than casual generalizations suggest. People who are age 75 and over look very different economically than people who are age 65 to 74. They have less income in general; they have less earned income and more social security benefits. They also have more poverty. And if income inequality is a measure of diversity, then the U.S. aged are the most economically diverse of all the elderly studied.

To these facts we add two additional pieces of information: 1) as measured by low income or poverty status, the large majority of the disadvantaged aged are women, particularly women living alone; and 2) according to OECD demographic forecasts, the proportion of aged who are age 75 and over in the six countries examined in this paper will increase from 35-39 percent in 1980 to well over 40 percent and even up to 48 percent in Norway and Sweden by the year 2000. In the United States alone, the percentage of all elderly persons who are age 75 and over will rise from 36 to 42 percent by the end of the century; at the

same time, the proportion age 80 and over will rise from 20 percent to 29 percent of all elderly.

Hence, the oldest old, who are increasingly females (widows) living alone and who are the poorest among the elderly, will be an increasing concern in Western society as this century progresses. Recent research indicates that pensions, both public (social insurance) and private, and survivor's benefits under social insurance schemes, are lower for women than for men. As single elderly women, who are usually widows, continue to depend very heavily on survivor's benefits, it seems incumbent upon governments to carefully evaluate the adequacy of these benefits. While a more complete examination of this issue is beyond the scope of this paper, based on the evidence presented here, a well-targeted increase in survivor's benefits or a higher widow's pension would help reduce the high levels of poverty among aged women.

Conclusion

In the last 20 years, the population of every country examined in this paper has become considerably older, and every national government has devoted a larger share of its own domestic product to ensure the economic security of this increasingly older population. Increased government expenditures were required in part because of the growing number of beneficiaries, due to both the general aging of the population and the liberalization of retirement ages in most countries, and because of growing medical expenditures. Larger expenditures also were required because of rising average benefit levels relative to wages in the economy.

The result of the increasing generosity of social security programs is that the aged in the countries studied have income levels that are between 75 and 90 percent of the national average income. A recent study for the United States indicates that if non-cash income in the form of subsidized health care, implicit rent on owner-occupied housing, and food were also included, this ratio of net incomes would increase to near parity. And if leisure has any value at all, then the well-being of the aged is at least comparable to that of the non-aged. This is a remarkable achievement for national governments, who have increasingly assumed the responsibility of providing economic security to this growing dependent population.

But improving the income of the aged in general still may not address the twin problems of the distribution of benefits and poverty levels among the aged, particularly single elderly women. The U.S. aged, who enjoy the highest average income of all the countries studied, also have the highest inequality of all the countries and one of the highest poverty rates. As Joseph Quinn has observed, when examining the economic status of the elderly, "beware the mean." The international comparisons of the income of the aged discussed here reinforce his warning.

Actual and Projected Economic Indicators

seasonally adjusted

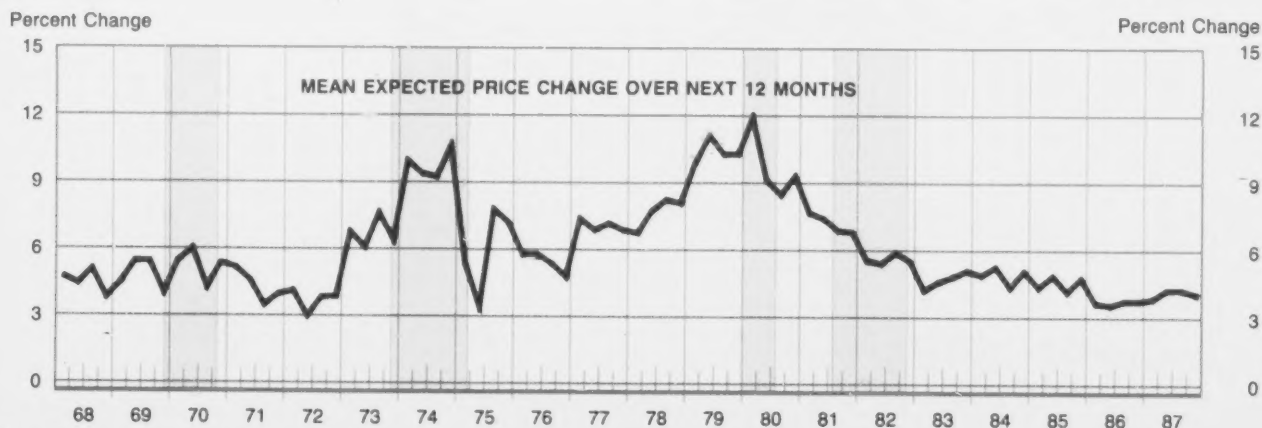
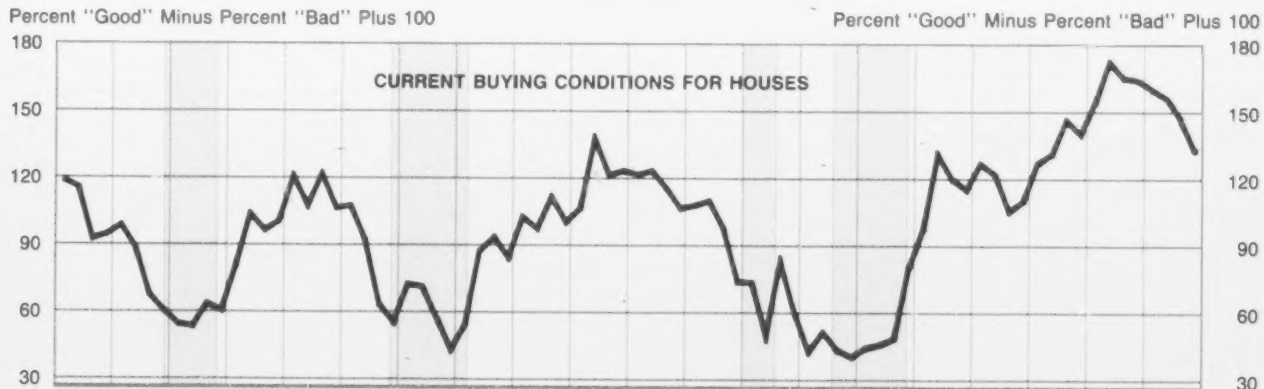
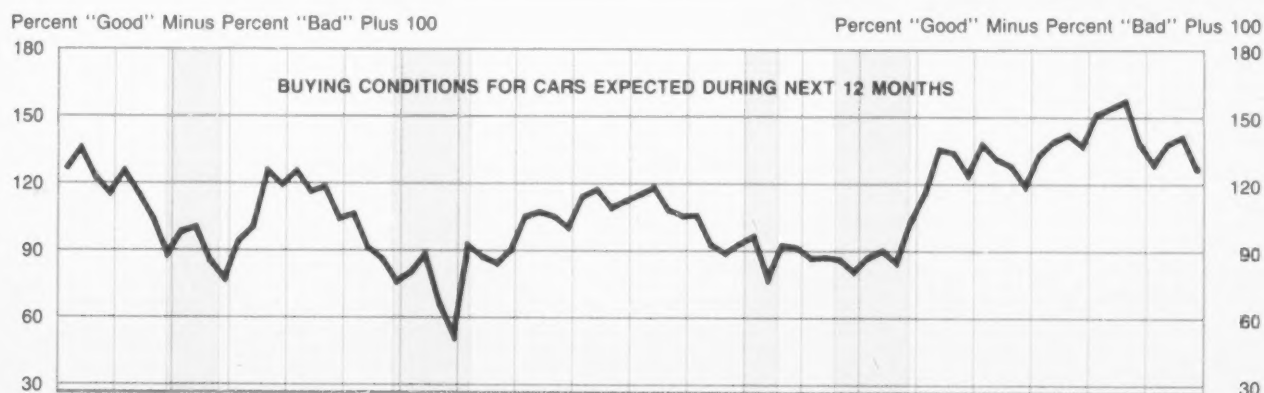
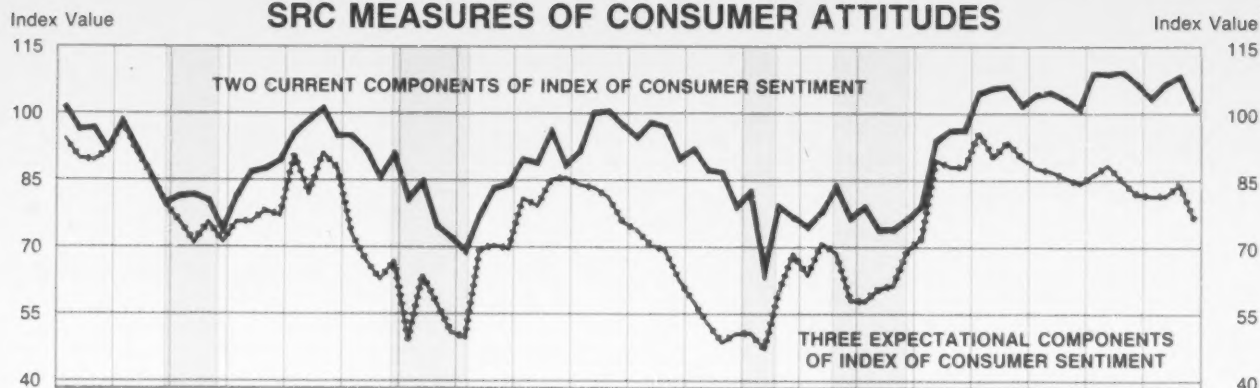
| SERIES FORECAST BY THE ASA-NBER PANEL | | | | | | | | | | | | | |
|---|----------------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|-------------|---------|-----------|
| ECONOMIC INDICATOR | Quarterly Data | | | | | | | | | | Annual Data | | |
| | Actual | | | | | Projected | | | | | Actual | | Projected |
| | 1986:4 | 1987:1 | 1987:2 | 1987:3 | 1987:4 | 1987:4 | 1988:1 | 1988:2 | 1988:3 | 1988:4 | 1986 | 1987 | 1988 |
| GROSS NATIONAL PRODUCT | 4,288.1 | 4,377.7 | 4,445.1 | 4,524.0 | 4,607.4 | 4,575.0 | 4,634.4 | 4,696.5 | 4,770.5 | 4,842.5 | 4,235.0 | 4,488.6 | 4,737.0 |
| GNP IMPLICIT PRICE DEFLATOR
(index, 1982 = 100) | 114.9 | 116.1 | 117.1 | 117.9 | 118.7 | 118.8 | 119.8 | 120.8 | 121.9 | 123.1 | 114.1 | 117.5 | 121.4 |
| CORPORATE PROFITS AFTER TAXES | 134.0 | 129.0 | 134.5 | 141.9 | 144.2 | 138.0 | 138.0 | 138.5 | 140.0 | 139.5 | 126.9 | 137.4 | 138.3 |
| UNEMPLOYMENT RATE (percent) | 6.83 | 6.60 | 6.23 | 5.97 | 5.90 | 6.00 | 6.10 | 6.20 | 6.20 | 6.20 | 6.98 | 6.18 | 6.15 |
| INDUSTRIAL PRODUCTION
(index, 1977 = 100) | 125.9 | 126.9 | 128.2 | 130.9 | 133.2 | 132.0 | 132.5 | 133.1 | 134.2 | 134.8 | 125.1 | 129.8 | 134.0 |
| NEW PRIVATE HOUSING
UNITS STARTED (millions)* | 1.717 | 1.779 | 1.606 | 1.619 | 1.533 | 1.600 | 1.550 | 1.550 | 1.550 | 1.550 | 1.812 | 1.634 | 1.535 |
| CONSUMER PRICE INDEX (annualized
percent change from prior quarter or year)* | 2.66 | 5.38 | 4.94 | 3.94 | 3.59 | 4.20 | 4.50 | 4.20 | 4.30 | 4.50 | 1.89 | 3.70 | 4.20 |
| 3-MONTH TREASURY BILL RATE (%) | 5.34 | 5.53 | 5.73 | 6.03 | 6.00 | 5.90 | 5.75 | 5.76 | 5.95 | 5.90 | 5.97 | 5.83 | 5.90 |
| NEW HIGH-GRADE CORPORATE
BOND YIELD (percent) | 9.05 | 8.62 | 9.65 | 10.14 | 10.37 | 10.20 | 10.10 | 10.16 | 10.30 | 10.50 | 9.23 | 9.69 | 10.20 |
| GNP IN 1982 DOLLARS | 3,731.5 | 3,772.2 | 3,795.3 | 3,835.9 | 3,880.8 | 3,852.9 | 3,873.0 | 3,881.0 | 3,914.0 | 3,937.0 | 3,713.3 | 3,821.0 | 3,897.0 |
| PERSONAL CONSUMPTION
EXPENDITURES (1982 dollars) | 2,480.5 | 2,475.9 | 2,487.5 | 2,520.7 | 2,504.6 | 2,514.9 | 2,525.5 | 2,536.0 | 2,548.0 | 2,560.5 | 2,450.5 | 2,497.2 | 2,542.5 |
| NONRESIDENTIAL FIXED
INVESTMENT (1982 dollars) | 443.2 | 426.0 | 437.9 | 463.8 | 465.6 | 467.4 | 468.0 | 472.0 | 474.5 | 480.5 | 443.8 | 448.3 | 472.0 |
| RESIDENTIAL FIXED
INVESTMENT (1982 dollars) | 202.2 | 198.2 | 196.8 | 193.5 | 197.0 | 195.0 | 193.0 | 194.0 | 191.0 | 197.0 | 196.4 | 196.4 | 191.0 |
| CHANGE IN BUSINESS
INVENTORIES (1982 dollars) | -14.4 | 47.6 | 39.0 | 24.6 | 60.5 | 20.0 | 15.0 | 15.0 | 15.0 | 11.8 | 13.8 | 42.9 | 14.3 |
| NET EXPORTS (1982 dollars) | -151.8 | -135.2 | -132.7 | -138.4 | -135.8 | -128.0 | -119.4 | -113.0 | -108.0 | -104.0 | -145.8 | -135.5 | -111.0 |
| FEDERAL GOVERNMENT
PURCHASES (1982 dollars) | 344.6 | 327.3 | 332.6 | 336.3 | 347.6 | 344.0 | 339.0 | 340.0 | 340.0 | 341.0 | 332.5 | 335.9 | 340.0 |
| STATE AND LOCAL GOVERNMENT
PURCHASES (1982 dollars) | 427.1 | 432.3 | 434.1 | 435.4 | 441.3 | 440.0 | 443.0 | 445.5 | 447.9 | 450.4 | 422.1 | 435.8 | 446.0 |
| SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS | | | | | | | | | | | | | |
| ECONOMIC INDICATOR | Quarterly Data | | | | | | | | | | Annual Data | | |
| | 1985:3 | 1985:4 | 1986:1 | 1986:2 | 1986:3 | 1986:4 | 1987:1 | 1987:2 | 1987:3 | 1987:4 | 1985 | 1986 | 1987 |
| GROSS NATIONAL PRODUCT | 4,042.0 | 4,104.4 | 4,174.4 | 4,211.6 | 4,265.9 | 4,288.1 | 4,377.7 | 4,445.1 | 4,524.0 | 4,607.4 | 4,010.3 | 4,235.0 | 4,488.6 |
| PERSONAL CONSUMPTION
EXPENDITURES | 2,665.4 | 2,700.1 | 2,737.9 | 2,765.8 | 2,837.1 | 2,858.6 | 2,893.8 | 2,943.7 | 3,011.3 | 3,022.6 | 2,629.4 | 2,799.8 | 2,967.8 |
| GROSS PRIVATE DOMESTIC
INVESTMENT | 628.6 | 650.8 | 683.4 | 679.4 | 660.8 | 660.2 | 699.9 | 702.6 | 707.4 | 760.2 | 641.6 | 671.0 | 717.5 |
| NET EXPORTS | -84.7 | -103.5 | -93.8 | -100.8 | -110.5 | -116.9 | -112.2 | -118.4 | -123.7 | -124.3 | -79.3 | -105.5 | -119.7 |
| GOVERNMENT PURCHASES | 832.8 | 857.0 | 846.9 | 867.2 | 878.5 | 886.3 | 896.2 | 917.1 | 929.0 | 948.8 | 818.6 | 869.7 | 922.8 |
| DISPOSABLE PERSONAL INCOME | 2,847.2 | 2,906.6 | 2,966.0 | 3,022.4 | 3,038.2 | 3,061.6 | 3,125.9 | 3,130.6 | 3,195.3 | 3,275.0 | 2,841.1 | 3,022.0 | 3,181.7 |
| PERSONAL SAVING RATE
(percent of disposable income) | 3.4 | 4.1 | 4.7 | 5.5 | 3.6 | 3.6 | 4.4 | 3.0 | 2.8 | 4.8 | 4.5 | 4.4 | 3.8 |

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in March, and projected data, released by ASA-NBER in January, are displayed for fourth quarter 1987.

Sources: Projections: American Statistical Association—National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

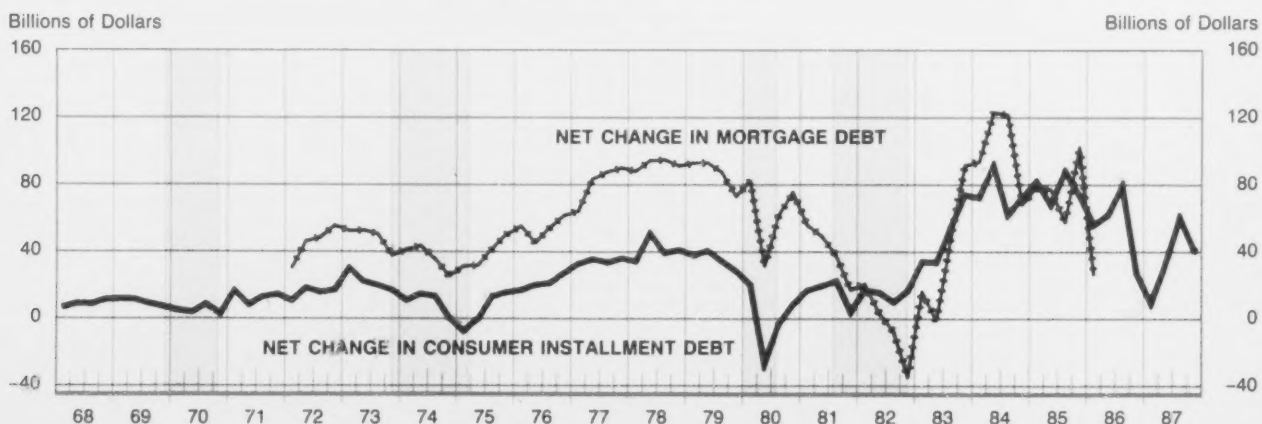
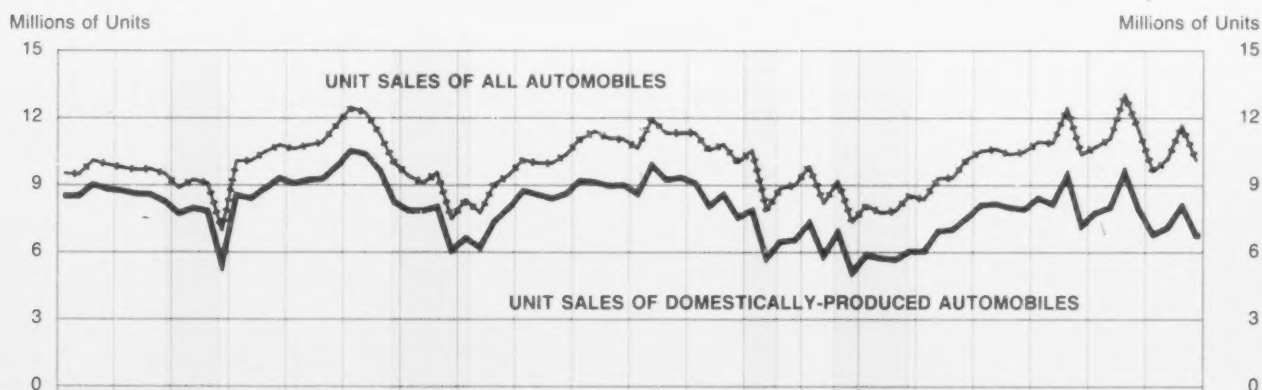
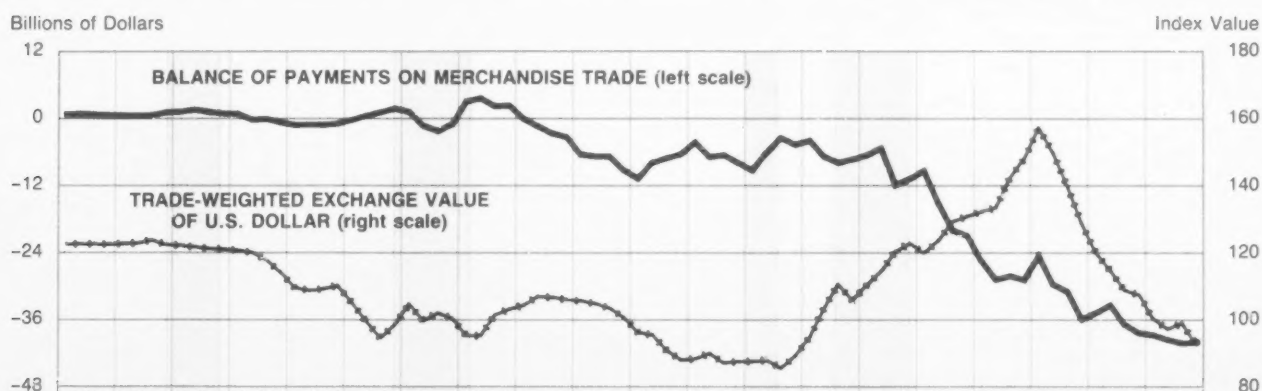
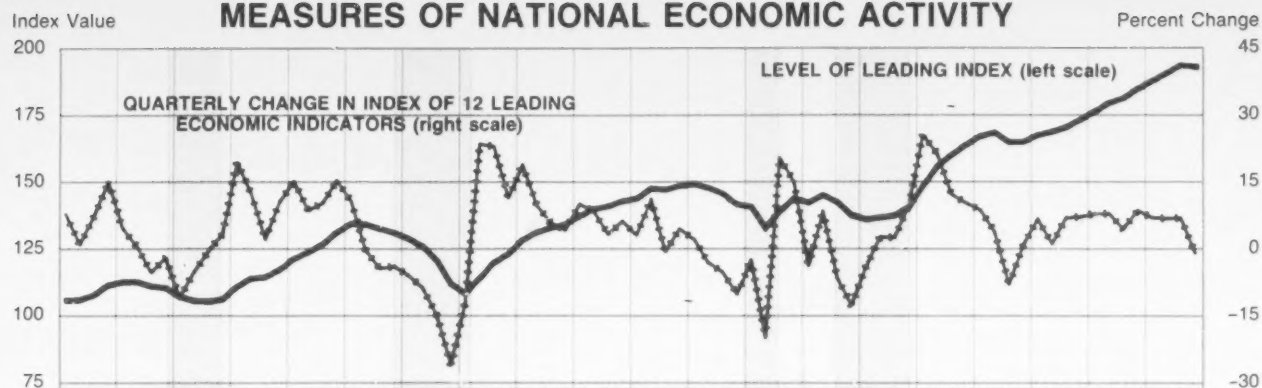
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Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

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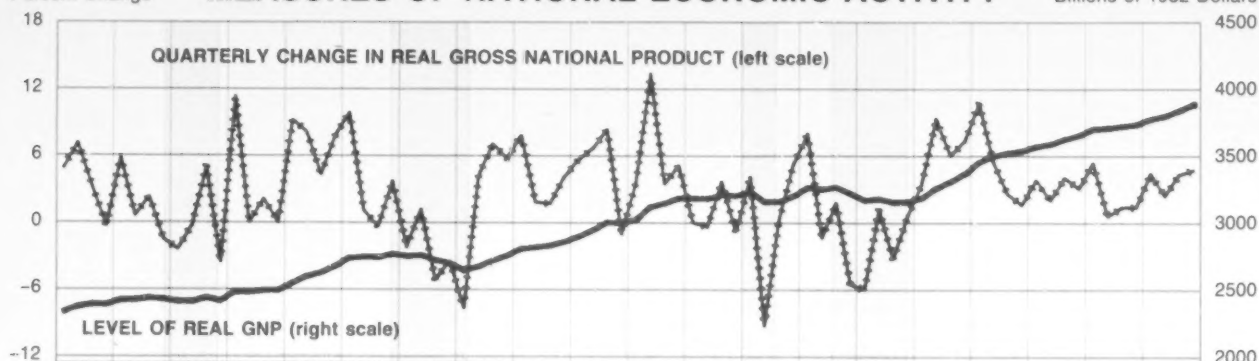


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Percent Change

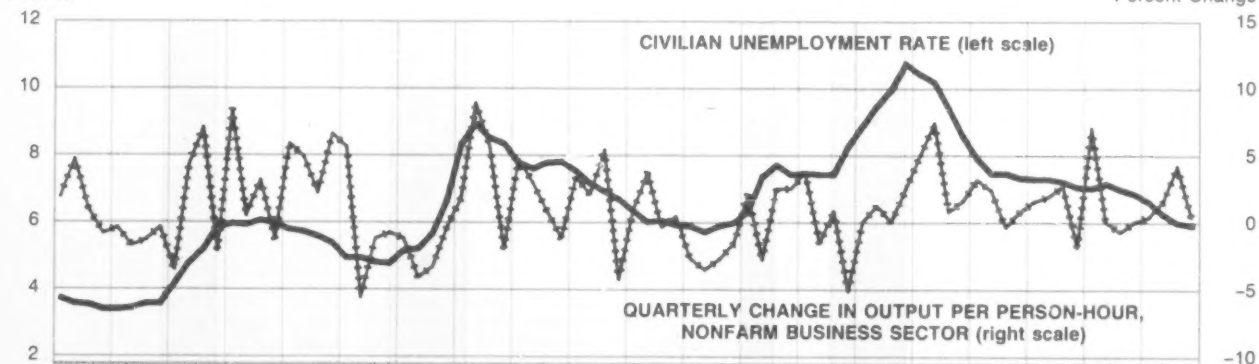
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Billions of 1982 Dollars



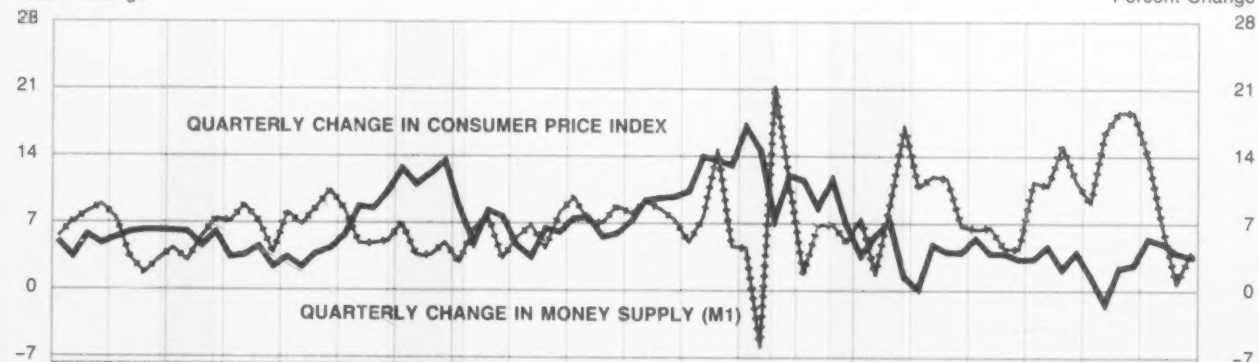
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Percent Change



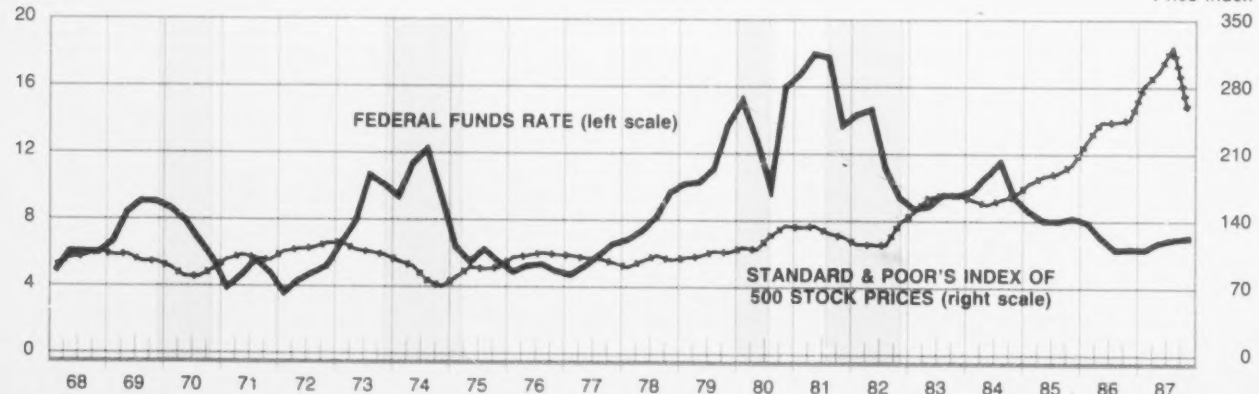
Percent Change

Percent Change



Percent

Price Index



Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

Author Index to Volume 14 (1987-88)

| | |
|--|------|
| Cole, Robert E. | |
| Economy and Culture: The Case of U.S.-Japan Economic Relations | 2/3* |
| Curtin, Richard T. | |
| Consumer Confidence Remains Favorable amid Growing Apprehensions | 1/8 |
| The Crash and the Consumer | 3/20 |
| Gold, Martin, and Mann, David W. | |
| Alternative Schools for Troublesome Secondary Students | 1/10 |
| Hymans, Saul H.; Crary, Joan P.; and Wolfe, Janet C. | |
| The U.S. Economic Outlook for 1988-89 | 3/3 |
| Jones, Randall S. | |
| The U.S.-Japan Economic Problem | 2/7 |
| Juster, F. Thomas | |
| Consumer Spending and the Outlook for 1987 | 1/5 |
| The Distribution of Wealth in the U.S. Economy: Part 1 | 2/16 |
| Stock Prices and Consumer Spending: an Appraisal of the Great Crash | 3/16 |
| The Distribution of Wealth in the U.S. Economy: Part 2 | 4/9 |
| Update on the U.S. Economy | 4/12 |
| Osborn, June E. | |
| The AIDS Issue — Incidence, Transmission, and Prevention: | |
| A Summary of the Basic Scientific Evidence | 2/10 |
| AIDS and Public Policy | 4/3 |
| Smeeding, Timothy M., and Torrey, Barbara Boyle | |
| An International Perspective on the Income and Poverty Status of the U.S. Aged | 4/13 |
| Wachtel, Paul | |
| What Is the Fed up to? | 1/3 |
| Zarnowitz, Victor | |
| On Causes and Consequences of Financial Instability | 3/13 |

*Issue number/beginning page number.

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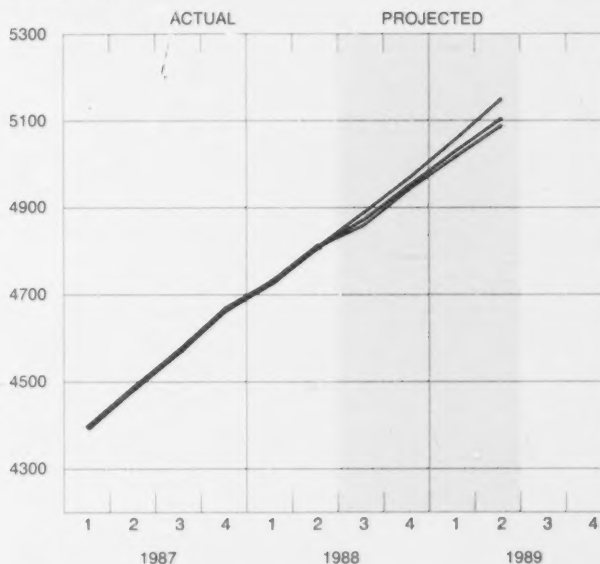
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ECONOMIC PROSPECTS: Actual and projected seasonally adjusted quarterly data at annual rates.

GROSS NATIONAL PRODUCT

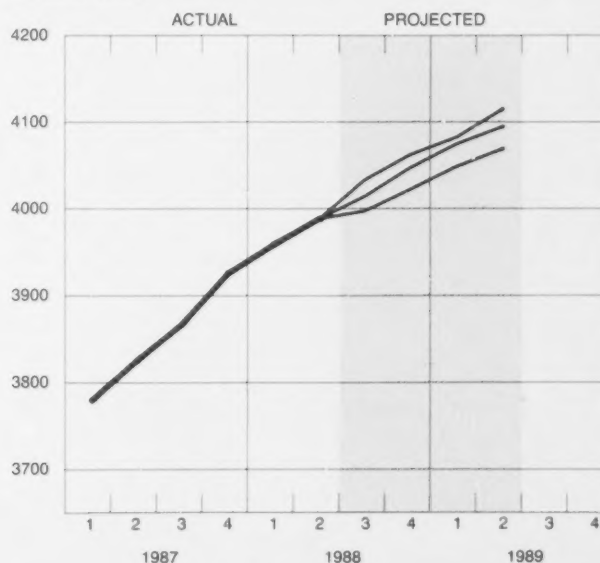
IN CURRENT DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

GROSS NATIONAL PRODUCT

IN CONSTANT 1982 DOLLARS
Billions of Dollars



Sources: Actual data are from U.S. Department of Commerce; projected data are from ASA-NBER Panel of Forecasters, revised when necessary to be consistent with latest actual data. The 3 lines display 3rd, 2nd (median), and 1st quartile values from the array of forecasts.

Mid-Year Review and Forecast: The U.S. Economic Outlook for 1988-89

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Research Seminar in Quantitative Economics
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After the Crash

In presenting our forecast at the November 1987 Economic Outlook Conference, we concluded our analysis of the likely effects of the October stock market crash by saying, "We are therefore not convinced that the ...[crash]... will impart a long-term negative impulse to the state of aggregate demand." We went on to suggest, however, "...that some who would otherwise be both willing and able to make major expenditures will hold off for a few months just to be sure that their economic world is not collapsing around them. And that includes consumers ... and businesses...."

At the time, we were generally regarded as optimists and wishful thinkers. It turns out, instead, that *even we* were a bit too pessimistic. In November we had just come off a quarter, 1987:3, in which real final sales were (accurately) estimated to have risen sharply by \$6.8 billion 1982 dollars. We forecast that the fourth quarter would experience a drop of \$9.7 billion in real final sales — a temporary, post-crash drop in final demand — which would be followed by a resurgence to the tune of nearly \$46 billion in the first quarter of 1988. Final demand was indeed well below par in the closing quarter of 1987, but it didn't fall below the third quarter level. Rather, it rose by just \$3.7 billion, which amounts to less than 4/10 of one percent growth at annual rate. And with final sales having *held up* somewhat better than we had forecast, there was less to *make up* in the first quarter of this year. In fact, the net change in real final sales over the two quarters following 1987:3 was just under \$38 billion, compared with \$36 billion in our forecast.

Our accuracy in forecasting final demand following the stock market crash did not carry over to inventory investment. We expected businesses to be far more cautious in their production and ordering decisions than they turned out to be. Although inventory investment *has* declined since the first quarter of this year, inventory stocks still remain high relative to final sales, which will likely contribute to some slowing of overall economic growth during the second half of this year.

The Current State of the Economy

A more nearly complete picture of economic events before and since the stock market crash is presented by the data in Table 1, which will frame our discussion of the current state of the economy.

By mid-1984, only a year and a half into the economic recovery from the worst recession since the 1930s, the rate of growth of the American economy was already weaken-

ing. Although the consumption boom was continuing, more and more of U.S. demand was being satisfied by imports made cheap by a rising dollar. American manufacturing was falling far behind in the race to capture either domestic or foreign purchasing power.

Finally, in the early months of 1985, the dollar peaked. Based on quarterly averages, the dollar fell without stop for nearly two and one-half years, through mid-1987. By the second half of 1986 we were just beginning to feel the stimulative effects of dollar depreciation; export quantities were strengthening and manufacturing production was picking up. From the last quarter of 1986 to the stock market peak in the third quarter of 1987, real GNP rose at an annual rate of 4.7 percent (see Table 1), a considerable speed-up compared with the 2 percent growth of real GNP registered over the year *ending* in the fourth quarter of 1986. Among the major components of real GNP, only federal government purchases — already under pressure in the fight to control the budget deficit — and residential construction were declining. And in the case of home-building activity, the decline was primarily a reflection of the negative impact on apartment construction of the 1986 Tax Reform Act.

Inflation was clearly under control during 1987; for the private nonfarm sector as a whole, hourly compensation was rising at an annual rate of only 3.3 percent, while prices were rising at a rate of 2.9 percent. Consumer prices, on the other hand, were rising at a rate in excess of 5 percent; but much of this was the special reflection of oil prices, which were rising sharply again — at an annual rate of nearly 60 percent, as shown in Table 1 — following the major deflation of oil prices which had begun in late 1985. Non-oil imports were not making any substantial contribution to domestic inflation as the foreign suppliers of our imports continued to follow the dollar down in their pricing in order to hang on to the American market.

There was, of course, a general recognition that foreign producers couldn't cut their domestic-currency prices forever to hold on to the American market, and that ultimately we would indeed begin to feel a good deal more import inflation if the dollar continued to decline in value. In all likelihood, the dollar-support policy which came out of the Louvre Accord of February 1987 reflected a consistency in the desire of Japan to hold on to its major export market and the U.S. to put off the inevitable effect of rising import inflation. Such an agreement was, of course, premature. The economic fundamentals couldn't support such a stall in the depreciation of the dollar with the U.S. (and its trading partners) still so far from a balance of trade equilibrium. A strong argument can be made, then, that the engineered rise in U.S. interest rates which followed the Louvre Accord — 3-month treasury bills rose

TABLE 1. The U.S. Economy, before and after the Stock Market Crash of 1987

| | | 1986:4-
1987:3 | 1987:3-
1988:2 |
|--|-----------------------------------|-------------------|-------------------|
| <i>Percent Changes at Annual Rate</i> | | | |
| <i>Real GNP and Components</i> | | | |
| Real GNP | (1982 dollars) | 4.7 | 4.2 |
| Consumption | (%) | 3.2 | 1.5 |
| Durable Goods | (%) | 3.1 | 0.5 |
| Nondurables and Services | (%) | 3.2 | 1.7 |
| Business Fixed Investment | | | |
| Producers' Durables | (%) | 13.9 | 10.9 |
| Nonresidential Construction | (%) | 4.5 | -0.5 |
| Residential Construction | (%) | -5.0 | -0.9 |
| Federal Gov't. Purchases Excluding CCC | (%) | -2.4 | -2.0 |
| State and Local Gov't. Purchases | (%) | 2.1 | 3.4 |
| <i>Prices and Wages</i> | | | |
| Hourly Compensation, Private Nonfarm | (1977=100) | 3.3 | 4.7 |
| Price Deflator, Private Nonfarm | (1982=100) | 2.9 | 2.3 |
| Personal Consumption Deflator | (%) | 5.2 | 4.1 |
| Exchange Rate Index (Value of U.S. Dollar) | (3/73=100) | -10.3 | -11.0 |
| Price Deflator for Non-oil Imports | (1982=100) | 3.6 | 4.7 |
| Price Deflator for Oil Imports | (%) | 59.5 | -22.1 |
| Dow-Jones 30 Industrials | (average of daily closing prices) | 52.2 | -26.3 |
| <i>Levels in Terminal Quarter</i> | | | |
| Civilian Unemployment Rate | (percent) | 5.7 | 5.5 |
| Capacity Utilization Rate, Manufacturing | (%) | 81.4 | 83.1 |
| Real Net Exports | (billions of 1982 dollars) | -130.7 | -90.1 |
| Automobile Sales | (millions of units) | 11.5 | 10.6 |
| Import Share | (percent) | 30.6 | 29.6 |
| Personal Saving Rate | (percent) | 2.3 | 3.8 |
| 3-Month Treasury Bill Rate | (percent) | 6.0 | 6.2 |
| Aaa Corporate Rate | (%) | 9.8 | 9.8 |
| Conventional Mortgage Rate | (%) | 10.5 | 10.4 |
| Federal Deficit | (billions of dollars) | 138.3 | 122.5 |

from 5½ percent in the early months of 1987 to an average of 6 percent for 1987:3 and a peak of 6.4 percent for the month of September, while the exchange value of the dollar experienced its first quarterly rise in nearly 2½ years in 1987:3 — contributed to a financial imbalance which culminated in the stock market crash of last October.

Obviously the conditions were ripe for a deflation in the stock market. The Dow Industrials had risen especially sharply since late '86 (see Table 1), and the market was being viewed with increasing skepticism as the bubble grew. Once the break came, and its early dimensions turned out to match those of the 1929 stock market crash, a serious 1988 recession became the irresistible conclusion

of many analysts, forecasters, and media types. Fortunately, their pronouncements carried far less weight than the economic behavior of countless consumers and businesses.

As shown by the data in Table 1, the rate of growth of real GNP has, on the average, been slower in the three quarters since the stock market crash than in the three preceding quarters — but only by about one-half of one percentage point. Consumers did indeed become hesitant after October; the rate of growth of consumer purchases dropped from 3.2 to just 1.5 percent, and the personal saving rate rose from a near-record low of 2.3 percent in 1987:3 to 3.8 percent in the most recent quarter, which is still unusually low. Recent production growth has been quite enough to

keep the unemployment rate declining. The civilian unemployment rate dropped to an average of 5.5 percent for 1988:2 and reached 5.3 percent in the month of June before edging up to 5.4 percent in July.

What kept the economy growing as rapidly as it has since October is basically the same factor that "renewed" the expansion in the latter part of 1986: the declining dollar, the resulting improvement in U.S. competitiveness (which is not meant to imply that American industry hasn't made its own *direct* contributions through modernizing, etc), and a consequent upturn in U.S. production both for export and, finally, import competition. Some of the latter can be seen in the dramatic improvement in real net exports this year. As shown in Table 1, a \$40 billion drop in the (annualized) real net export deficit occurred between 1987:3 and 1988:2, and the import share of the U.S. car market has even edged below 30 percent in recent quarters for the first time since mid-1986.

There are certainly a few weak spots in the current economy, and some areas of special concern. The Federal Reserve System acted quickly to provide the economy with needed financial support when the stock market crashed, with the result that interest rates came down late last year and during the early months of this year. By spring, however, the Fed — no longer focused on the possibility of a quick post-crash recession — switched to monetary restraint, apparently in reaction to renewed fears of inflation. Interest rates are relatively high once again, and the exchange value of the dollar has indeed risen sharply even while our foreign trade balance remains deeply in the red by any standard other than that of our own performance in the recent past. The major differences between now and a year ago, however, are 1) that the *current* rise in the value of the dollar is primarily an offset to the *panic drop* in the dollar which followed last year's stock market crash, and 2) that we are *not* now sitting atop a stock market bubble. Although stock prices may well gyrate in response to daily news about interest rates and dollar values over the next little while, a repeat of October 1987 seems rather remote.

To this point excess demand inflation is clearly much more an upside risk than a reality. In the Greenspan Fed, the inflation-watch has obviously risen to prominence. The stance of monetary policy in the near term is likely to depend primarily on the inflation outlook. In view of this summer's drought, reading the signals of inflation correctly will not be all that easy. But it will be essential to the proper conduct of monetary policy and, indeed, to the proper interpretation of certain gyrations likely to appear in the federal budget. These and related matters will be dealt with in our discussion of inputs to the forecast, to which we now turn.

Inputs to the Forecast

We are currently in the midst of the nation's worst drought in half a century. The corn and soybean crops have been severely affected, and while the winter wheat crop was harvested before being affected by the dry weather, the spring wheat crop has suffered as well. Corn, wheat, and soybean prices are all expected to rise during the second half of

1988 as the drought reduces supplies. Even under the assumption of an approximately normal yield in 1989, stockpiles of these crops will remain quite low by normal standards, and prices will therefore remain high.

Some liquidation of dairy cattle stocks has already occurred, and increased liquidation of beef cattle is expected this fall in the face of higher feed grain prices and potentially poor forage. While meat prices may soften somewhat this fall as beef cattle stocks are reduced, higher meat prices are projected for 1989 given both the higher cost of feed and the tighter supply of meat and poultry.

We have assumed that farm prices in general will rise by 8 percent (annual rate) during the second half of 1988 and by a further 6 percent during 1989. For 1990 we are assuming a more normal increase in farm prices of 4 percent.

The drought will also have an impact on federal expenditures through Commodity Credit Corporation (CCC) activity, price support programs, and disaster relief. We are projecting increases in total federal expenditures of 4 percent and 5.4 percent for fiscal 1989 and fiscal 1990, respectively, following an increase of 5 percent for the current fiscal year (see Table 2). Defense purchases are assumed to increase by 1.4 percent for fiscal '89 and by 3 percent for fiscal '90 — well below expected price increases in both years. Nondefense purchases excluding CCC activity are assumed to rise by 4.3 percent for fiscal '89 and by 2.8 percent for fiscal '90 following a 10.6 percent increase for fiscal '88. Largely as a result of the drought, CCC inventories are projected to decline by \$14.2 billion in the current fiscal year and by \$7.5 billion in fiscal '89 and then to increase by \$5 billion in fiscal '90. These swings in CCC inventories produce abnormal movements in total government purchases but have no effect on GNP as they are offset by opposite changes in farm inventories.*

For each of the next two fiscal years transfer payments and grants-in-aid include estimates of outlays from Medicare and Medicaid, respectively, for the early stages of the catastrophic health insurance program enacted by Congress earlier this year. Subsidies in fiscal '88 and '89 include additional aid for financial institutions as well as drought relief for farmers.

Federal revenues include current estimates of the effects of the Omnibus Budget Reconciliation Act of 1987 — which was enacted following the stock market crash and which was designed to reduce the federal budget deficit through both spending reductions and revenue increases — and the Tax Reform Act of 1986. Also included are current estimates of the premium payments to be made by Social

*The CCC/inventory transaction operates in the following way. If the drought reduces farm production by 5 (billion 1982 dollars) and consumption is unchanged, farm inventory investment and therefore GNP will be reduced by 5. If the government wishes to offset part of this effect on farm inventory stocks (presumably to try to stabilize farm prices), it can reduce its own inventory of surplus commodities by, say, 4 (billion 1982 dollars) which will add that same amount to private farm inventories. This will result in two offsetting entries in the GNP accounts: government purchases will be *reduced* by 4 (since the *sale* of surplus commodities is netted out against all other government purchases) and farm inventory investment will be *increased* by 4. GNP is thus unchanged by this inventory transaction and continues to record the 5 unit drop due to the drought.

**TABLE 2. Federal Government Expenditures in the National Income and Product Accounts
(billions of dollars)**

| | Actual | RSQE Projections | | |
|---|-----------------|------------------|-----------------|-----------------|
| | Fiscal
1987* | Fiscal
1988† | Fiscal
1989‡ | Fiscal
1990‡ |
| Federal Government Expenditures | 1058.1 | 1110.4 | 1155.1 | 1217.6 |
| Purchases of Goods and Services | 375.8 | 379.0 | 393.8 | 418.3 |
| National Defense | 290.0 | 296.7 | 300.8 | 310.0 |
| Nondefense Excluding CCC | 87.2 | 96.4 | 100.5 | 103.3 |
| CCC Purchases | -1.4 | -14.2 | -7.5 | 5.0 |
| Transfer Payments | 409.9 | 433.6 | 459.1 | 492.3 |
| Unemployment Benefits | 15.5 | 13.5 | 14.1 | 16.4 |
| Grants-in-aid to State
and Local Governments | 102.9 | 106.7 | 108.9 | 111.3 |
| Net Interest Paid | 139.8 | 152.0 | 162.6 | 172.6 |
| Subsidies less Current Surplus
of Government Enterprises | 29.7 | 39.2 | 30.7 | 23.0 |
| Federal Receipts | 894.6 | 964.1 | 1016.4 | 1093.7 |
| Surplus (+) or Deficit (-) | -163.5 | -146.3 | -138.6 | -123.9 |

*Data for fiscal 1987 are from the *Survey of Current Business*, July 1988.

†Available quarters of fiscal 1988 are from the *Survey of Current Business*, July 1988; 1988:3 projected by RSQE.

‡RSQE projections and Control Forecast for fiscal 1989 and 1990.

Security recipients to cover part of the cost of the catastrophic health insurance program.

Our federal budget projections include budget action to reduce the deficit by \$17 billion for fiscal '90 and by about \$20 billion in subsequent years. The deficit reduction takes the form of a \$4.5 billion reduction in purchases, a \$5 billion reduction in subsidies and a \$10 billion increase in personal taxes effective January 1, 1990. Without such action the budget deficit would exhibit virtually no improvement from fiscal '89 to fiscal '90. With such budget action taken in the context of our control forecast the federal deficit, which declines minimally from \$146 billion for fiscal '88 to \$139 billion for fiscal '89, declines to \$124 billion for fiscal '90.

In recent testimony before the House Banking Committee Fed Chairman Alan Greenspan stated that a rise in the exchange value of the dollar was undesirable, but that *substantial* decline in the dollar's value vis-a-vis other currencies probably would not hasten the shrinking of the trade deficit given the nation's available industrial capacity. The Fed's concern in recent months has been focused on rising levels of capacity utilization and employment gains, which may be forerunners of renewed inflationary pressure. As a result the Fed has acted to push up short-term interest rates since February. Citing continued concerns about inflation and a need to realign the discount rate with other short-term interest rates, the Fed raised the discount rate from 6 to 6.5 percent on the 9th of August.

In the context of a forecast of modest economic growth over the next two and one half years, with the exchange value of the dollar drifting downward from current levels by 3-4 percent per year and the core industrial inflation rate rising from under 3 percent during 1987 to no more than about 4½ percent during 1990 we see little need for further tightening of monetary policy over the forecast horizon. We have assumed that the discount rate will remain at 6.5 percent and that the monetary base will grow by about 5 percent per year throughout the forecast period.

For the past several months a number of the members of OPEC have been exceeding their production quotas and generating a crude oil glut. We expect no quick improvement in production discipline due to the recent cease-fire agreement between Iran and Iraq. As a result oil prices are projected to be in the \$16 per barrel range for the second half of 1988. During 1989 and 1990 oil prices are assumed to rise by 4 percent per year, reflecting some moderate stability in production arrangements as we look further ahead.

The Balance of 1988

Our forecast of the near-term economic outlook is summarized in Table 3. We expect real GNP to grow at an annual rate of 2.5 percent in the third quarter of this year, a rate just about matching the growth of real final sales (excluding sales of agricultural stocks by the federal govern-

ment in response to the drought conditions), but about one-half of one percentage point below the 3.1 percent GNP growth rate now estimated for 1988:2. Part of the third quarter slowdown in aggregate production is directly attributable to the drought. In 1988:2, real farm inventory stocks rose by 11.1 billion 1982 dollars (annual rate) while the federal government was increasing the stock of available agricultural commodities by \$17.8 billion through Commodity Credit Corporation sales. Without the government's release of stocks, real farm inventories would have declined by \$6.7 billion (11.1 - 17.8) in the second quarter. For 1988:3 we anticipate that the government will release another \$12.5 billion in accumulated stocks, without which real farm inventories would have declined by \$10 billion (2.5 - 12.5). The difference between \$6.7 and \$10 billion, or \$3.3 billion, is the measure

of the drought's differential impact on real GNP in the current quarter. Without that added loss of production, GNP growth in 1988:3 (all else equal) *would have been* forecast at an annual rate of 2.8, rather than 2.5, percent. The drought will have an even greater differential impact in the fourth quarter of the year, when we anticipate that farm inventory stocks would have declined by \$18 billion (-8.6 - 9.4) in the absence of the government's CCC sales. The difference between \$10 and \$18 billion is our estimate of the drought's differential impact on real GNP in the fourth quarter of this year, and without that \$8 billion differential real GNP growth in 1988:4 would have been forecast at 2.5 percent rather than the 1.5 percent shown in Table 3. The negative swing of \$8 billion is expected to be reversed in 1989:1, which thus accounts for part of the speed-up of GNP growth which we are forecasting for the

TABLE 3. RSQE Forecast: The Calendar Year and Second-Half 1988
(billions of 1982 dollars, SAAR, unless otherwise indicated)

| | 1988 | | | | 1989 | Calendar Year | |
|--|--------|--------|--------|--------|--------|---------------|--------|
| | I | II | III | IV | I | 1987 | 1988 |
| <u>Real GNP and Components</u> | | | | | | | |
| Real GNP | 3956.1 | 3986.3 | 4010.5 | 4025.1 | 4057.3 | 3847.0 | 3994.5 |
| (Percent Change, SAAR) | (3.4) | (3.1) | (2.5) | (1.5) | (3.2) | (3.4) | (3.8) |
| Real Final Sales Excluding CCC | 3909.4 | 3959.1 | 3985.8 | 4010.0 | 4026.6 | 3816.5 | 3996.1 |
| (Percent Change, SAAR) | (5.5) | (5.2) | (2.7) | (2.5) | (1.7) | (3.2) | (3.9) |
| Consumption | 2559.8 | 2574.2 | 2589.3 | 2600.0 | 2611.5 | 2521.0 | 2580.8 |
| (Percent Change, SAAR) | (4.5) | (2.3) | (2.4) | (1.7) | (1.8) | (2.7) | (2.4) |
| Business Fixed Investment | 473.4 | 489.2 | 496.4 | 502.9 | 506.5 | 445.1 | 490.5 |
| Residential Construction | 189.5 | 190.8 | 190.1 | 189.6 | 187.1 | 195.2 | 190.0 |
| Change in Business Inventories | 66.0 | 45.0 | 37.2 | 24.5 | 37.0 | 34.4 | 43.2 |
| Farm | 14.1 | 11.1 | 2.5 | -8.6 | -3.8 | -2.5 | 4.8 |
| Net Exports | -109.0 | -90.0 | -85.3 | -79.6 | -78.9 | -128.9 | -91.0 |
| Government Purchases | 776.4 | 777.2 | 782.8 | 787.8 | 794.1 | 780.2 | 781.0 |
| CCC Purchases | -19.3 | -17.8 | -12.5 | -9.4 | -6.2 | -3.9 | -14.7 |
| GNP Deflator (1982=100) | 119.4 | 120.6 | 121.8 | 123.0 | 124.3 | 117.7 | 121.2 |
| (Percent Change, SAAR) | (1.7) | (4.1) | (4.2) | (3.9) | (4.3) | (3.3) | (3.0) |
| Current Dollar GNP (billions of dollars) | 4724.5 | 4806.9 | 4886.3 | 4950.7 | 5043.0 | 4526.7 | 4842.1 |
| <u>Addenda</u> | | | | | | | |
| Civilian Unemployment Rate (percent) | 5.7 | 5.5 | 5.5 | 5.5 | 5.5 | 6.2 | 5.6 |
| 3-Month Treasury Bill Rate (percent) | 5.7 | 6.2 | 6.7 | 6.7 | 6.5 | 5.8 | 6.4 |
| Aaa Corporate Rate (percent) | 9.6 | 9.8 | 10.0 | 10.0 | 9.9 | 9.4 | 9.8 |
| Conventional Mortgage Rate (percent) | 10.0 | 10.4 | 10.5 | 10.7 | 10.8 | 10.2 | 10.4 |
| Exchange Value of the Dollar
(Percent Change, SAAR) | -9.4 | 1.7 | 33.3 | -4.1 | -3.5 | -13.7 | -3.6 |
| Automobile Sales (millions of units) | 10.8 | 10.6 | 10.7 | 10.8 | 10.8 | 10.3 | 10.7 |
| Personal Saving Rate (percent) | 4.4 | 3.8 | 4.2 | 4.0 | 4.1 | 3.2 | 4.1 |
| Federal Deficit (billions of dollars) | 155.1 | 122.5 | 147.3 | 151.9 | 136.9 | 163.5* | 143.3* |

*Fiscal years.

first quarter of next year. And as discussed in connection with our input assumptions we have imposed an "approximately normal harvest" condition on the 1989 forecast.

Despite the drought's impact on farm production, the second half of this year is expected to be characterized by real GNP growth averaging 2 percent at annual rate, which will just manage to keep the civilian unemployment rate at a 5½ percent level for the remainder of the year. The paths of output and employment forecast for the balance of this year imply year-over-year real GNP growth amounting to 3.8 percent for 1988 and an unemployment rate averaging 5.6 percent for the year, down from a 6.2 percent average unemployment rate in 1987.

Our forecast for the second half of 1988 and the early part of 1989 has to be characterized as continued, but not especially rapid, growth — indeed, just enough to keep the unemployment rate steady at about its current level. And with overall unemployment at just about 5½ percent, economic growth averaging and running close to 2½ percent at annual rate is about right. Much less would imply rising unemployment; much more would yield rising inflationary pressures. As it is, even if we stay near current rates of resource utilization, we can expect to move to a somewhat higher average inflation rate as economic behavior becomes fully adjusted to the generally tighter markets.

Before going beyond the near-term outlook summarized in Table 3, it would be useful to take note of the monetary conditions inherent in that forecast. It is our view that short-term interest rates will begin to back off from their current levels by year-end, for two principal reasons. The first is that short rates frequently overshoot their ultimate level in response to a change in monetary policy, and we believe that happened when it became clear a few months ago that the Fed had tightened credit conditions. And second, the slower growth which we forecast to characterize at least the next two to three quarters will take a little pressure off interest rates both directly and as a result of some relaxation of whatever fears may recently have developed about future inflation. The modest easing envisioned for short-term interest rates will be accompanied by little more than a stabilizing of longer-term rates, including mortgage rates. With long rates remaining at relatively high levels, we anticipate a continued weakness in construction activity and some weakening in the growth rate of business capital spending as well.

We expect that the dollar will be declining again by the fourth quarter of this year. The sharp fall of the dollar following the stock market crash — 9 percent over the half-year ending 1988:1 — was clearly a panic reaction, and the dollar is now back to just about where it was a year ago. The trade deficit fundamentals can be expected to exert further downward pressure on the dollar, while continued shrinkage of our trade deficit is likely to keep the rate of decline of the dollar at a moderate level.

Finally, we note that the federal budget deficit reached an annual rate of about \$122 billion in 1988:2, but it can't remain that small. A one-time income tax revenue gain amounting to about \$20 billion at annual rate appeared in that quarter as a result of some forward-shifting of per-

sonal income following passage of the 1986 Tax Reform Act. This implies an automatic jump in the deficit rate in 1988:3, and in addition the federal drought relief discussed above will provide a further temporary increase in the federal deficit during the next few quarters. It appears, however, that the fiscal 1988 deficit will come in at a level which is acceptable under the 1987 Budget Reconciliation Act.

1989-90: The Outlook and Policy Issues

The major aspects of our forecast for 1989-90 are summarized in Table 4. We are forecasting real growth at a rate of 3.2 percent for the first quarter of next year as the economy bounces up a bit following the negative impacts of the 1988 drought, which are concentrated in the fourth quarter of '88. GNP growth is forecast at a rate averaging 2½ percent for the second and third quarters of next year, and at a slightly lower 2.1 percent for the closing quarter of 1989. The continuation of economic growth through at least the end of next year derives from two principal factors: 1) Export growth continues to outpace import growth, though by a smaller margin than in either 1987 or 1988; and 2) business capital purchases continue strong as the demand for U.S. manufacturing production continues to increase.

Growth in the consumer sector, on the other hand, is expected to lag behind the overall growth of real GNP, with purchases of nondurable goods being especially sluggish for the second year in a row. Car sales, on the other hand, are forecast at 10.8 million units for 1989, just above the 10¼ million units forecast for calendar 1988 — thus, a second very solid year following the 10¼ million sales of 1987.

The pace of real growth forecast for 1989 is accompanied by a virtually constant unemployment rate. Inflation, however, can be expected to pick up during next year as the economy remains at high levels of resource utilization. The core industrial inflation rate — as measured by the private nonfarm GNP deflator — accelerates from a pace below 3 percent during 1987 to about 4.2 percent during the second half of next year. Consumer price inflation is forecast to be very close to 5 percent throughout the next year and a half. The food price inflation resulting from the drought is the major reason that consumer prices rise at a 5 percent pace in the second half of this year and the first half of next year. After mid-'89, however, the continuation of the 5 percent pace of consumer price inflation reflects the general, but modest, step-up in most rates of price increase during 1989.

The modest softening of short-term interest rates which we expect to begin by the end of this year is forecast to continue into the middle of next year. By then we expect 3-month treasury bills, for example, to be about 35 basis points below current levels, or at about 6.4 percent. We expect the drop in short rates to stall at that level as the economy continues on a moderate growth path with steady unemployment and an upward inflationary drift. The 35 basis point drop in short-term interest rates, however, will not be enough to provide much of any decline in long-term interest rates. Conventional mortgage rates, for example,

TABLE 4. Summary of RSQE Forecast

| | | Actual | RSQE Forecast | | | | |
|---|---------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | | 1987:4-
1988:2 | 1988:2-
1988:4 | 1988:4-
1989:2 | 1989:2-
1989:4 | 1989:4-
1990:2 | 1990:2-
1990:4 |
| <i>Percent Changes at Annual Rate</i> | | | | | | | |
| <u>Real GNP and Components</u> | | | | | | | |
| Real GNP | (1982 \$s) | 3.3 | 2.0 | 2.8 | 2.2 | 1.2 | 1.7 |
| Consumption | (") | 3.4 | 2.0 | 1.7 | 1.5 | 1.3 | 1.3 |
| Durable Goods | (") | 10.9 | 3.2 | 1.4 | 1.8 | 1.3 | 1.2 |
| Business Fixed Investment,
Producers' Durables | (") | 18.2 | 6.3 | 3.6 | 4.1 | 2.8 | 1.3 |
| Business Fixed Investment,
Nonresidential Construction | (") | -6.8 | 3.8 | 3.1 | 4.1 | 2.9 | 1.5 |
| Residential Construction | (") | -2.0 | -1.3 | -5.6 | -1.6 | -1.0 | 0.5 |
| Exports | (") | 16.5 | 5.5 | 8.4 | 9.5 | 8.2 | 7.7 |
| Imports | (") | 0.2 | 1.0 | 6.6 | 7.6 | 2.5 | 0.0 |
| Government Purchases Excl. CCC* | (") | 0.3 | 0.5 | 1.6 | 1.2 | -0.7 | -0.4 |
| Final Sales Excluding CCC* | (") | 5.4 | 2.6 | 1.6 | 1.8 | 1.7 | 2.0 |
| <u>Prices</u> | | | | | | | |
| Private Nonfarm Sector | | | | | | | |
| Hourly Compensation | (1977=100) | 3.9 | 4.6 | 5.2 | 5.2 | 5.9 | 5.5 |
| Unit Labor Cost | (") | 3.0 | 4.3 | 3.7 | 3.7 | 4.7 | 3.9 |
| Price Deflator | (1982=100) | 2.4 | 4.1 | 3.6 | 4.2 | 4.4 | 4.4 |
| Personal Consumption Deflator | (") | 3.8 | 5.0 | 5.1 | 5.4 | 5.6 | 5.6 |
| Oil Imports Deflator | (") | -25.2 | -6.0 | 2.0 | 4.0 | 4.0 | 4.0 |
| Non-oil Imports Deflator | (") | 5.6 | 0.2 | 6.9 | 7.7 | 7.8 | 7.2 |
| Exchange Rate Index (Value of U.S. \$) | (3/73=100) | -4.0 | 13.0 | -3.4 | -3.5 | -3.5 | -3.0 |
| <i>Levels in Terminal Quarter</i> | | | | | | | |
| Civilian Unemployment Rate | (%) | 5.5 | 5.5 | 5.5 | 5.5 | 5.6 | 5.8 |
| Real Net Exports | (billions 1982 \$s) | -90.1 | -79.6 | -77.8 | -75.9 | -61.3 | -39.3 |
| Automobile Sales | (millions of units) | 10.6 | 10.8 | 10.8 | 10.8 | 10.8 | 10.9 |
| Import Share | (%) | 29.6 | 28.0 | 28.3 | 28.9 | 29.6 | 30.4 |
| 3-Month Treasury Bill Rate | (%) | 6.2 | 6.7 | 6.4 | 6.4 | 6.4 | 6.5 |
| Aaa Corporate Bond Rate | (") | 9.8 | 10.0 | 9.9 | 9.9 | 10.0 | 10.0 |
| Conventional Mortgage Rate | (") | 10.4 | 10.7 | 10.7 | 10.7 | 10.7 | 10.8 |
| Federal Deficit | (billions of \$s) | 122.5 | 151.9 | 135.4 | 134.1 | 120.8 | 108.4 |

*CCC is net purchases by the Commodity Credit Corporation.

are expected to peak at about 10.8 percent at the start of 1989 and to drift only to 10.7 percent in the spring of the year. In other words, we envision a *relatively* tight monetary policy over the next year, with much of its bite coming out of the construction sector, especially residential construction.

Our outlook for 1989 has been summarized without saying a word about the presidential election. In effect, we are anticipating that the new president, whether Mr. Dukakis

or Mr. Bush, will take a bit of time before enunciating and proposing any major changes in macro-economic policy. Neither candidate, for example, is currently promising any dramatic shift in policy (which candidate Reagan clearly was during the 1980 campaign), and, if that keeps up as expected, the new president will not have to "deliver quickly" right after the inauguration. As time goes on, however, the need will develop to enunciate a policy that deals with the 1990 and subsequent budgets to assure that they meet the Gramm-Rudman-Hollings targets. In our view, this

will be essential because the current, status-quo budget track will fail to meet the GRH targets after next year.

As explained in our discussion of input assumptions, we have implemented a fiscal policy swing of about \$20 billion, in a mixture of expenditure reductions and tax increases, in the federal budget for 1990. Some of the expenditure cuts begin in 1989:4, and the full policy swing is in effect by the first quarter of 1990. We have made no provision for any easing of monetary policy to offset the contractionary swing in fiscal policy. Under these assumptions, 1990 would, in our view, turn out to be a minimal growth year — real GNP growing at rates averaging less than 1½ percent during the year. Unemployment would begin to edge up early in the year and would exceed 5.8 percent before year-end. While the rate of inflation would stop accelerating in such a scenario, it would have remained high enough for long enough that interest rates would be slow to come down in response to the economic

slowdown (with a “no-change” monetary policy). The slowdown would, however, accelerate the rate of improvement of our trade imbalance, principally by halting the growth of imports.

We are not here urging the particular mix of fiscal restraint that we chose to implement in this forecast. Rather, we are intending to point out the overwhelming likelihood that *some* shift to a permanently tighter fiscal stance is going to become unavoidable before much time will have passed in the life of the new administration.

Nor are we advocating that any permanent shift toward fiscal restraint in 1990 should be unaccompanied by an easing of monetary policy. On the contrary, our 1990 scenario points up the likelihood that we *would* want to accompany fiscal restraint with an easier monetary policy, or at least be on the watch for any deflationary shocks that could tip a vulnerable, slow-growth economy into a 1990 recession.

What's Going on Here? — Who Makes Economic Policy and Why?

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With the presidential election looming and the catalogue of economic problems as long as ever, concern about economic policy-making has begun to intensify. It has become all the more important to know how policy is formed in this country, who the policy makers are, and how they interact. Although there is an ample amount of very competent analysis within the government, there is no single body that determines macroeconomic policies; and a serious lack of coordination exists among policy makers.

In the 1980s, the difficulties in articulating and formulating a coherent set of policies have been enormous. Fiscal policy is, more often than not, the haphazard consequence of a never-ending struggle between the Congress and the president. Monetary policy — which is conducted by a supposedly independent body, the Federal Reserve — sometimes appears to be on a roller coaster.

Thus, this is an opportune time to examine the institutions that make policy and see how they are responding to the issues of the late 1980s.

Monetary Policy

The Federal Reserve System was created about 75 years ago as a regulatory body for the banking system. Its role has evolved to include the conduct of macroeconomic monetary policy by the Federal Open Market Committee. This important policy-making body includes no elected officials, and some of its members, the presidents of regional Federal Reserve banks, are not even presidential appointees. The others, the members of the Federal Reserve Board, are presidential appointees but with long terms which are supposed to free them from the concerns of politics. This was not always the case; until 1935 both the Secretary of the Treasury and the Comptroller of the Currency were *ex officio* members of the Federal Reserve Board.

The most influential individual on the committee is the chairman of the Board of Governors, who has been since last summer Alan Greenspan. Ironically, the four-year term as chairman starts toward the end of the president's

term. So President Reagan was saddled with a Carter choice, Paul Volcker, as the Fed chairman (although Volcker was, albeit reluctantly, reappointed by Reagan in 1983), and Greenspan will in all likelihood serve through most of the next president's term.

The Federal Reserve has recently been lambasted in what is otherwise an excellent book on the political economy of monetary policy, *Secrets of the Temple* by William Greider. Greider's contention is that the major institution for the conduct of macroeconomic policy in the U.S., the Fed, is not governed democratically and that it has made choices that run counter to the consensus view of the American people. That the Federal Reserve is an anomalous institution, removed from the basic forms of constitutional government, is undoubtedly correct. However, it is erroneous to argue that the inflation fears of the bankers and economists who run the Federal Reserve outweigh the interests of the public or that the Board of Governors is lacking in concern for the well-being of the economy.

The fear of inflation permeates American public opinion, and it is the underlying reason for the historical separation of the Federal Reserve from the executive branch of government. In the absence of such separation, monetary stability could well be sacrificed to the government's revenue needs, which can most readily be met by printing money. Nevertheless, there have been a few occasions of misguided political interference in monetary policy making. In January of this year, the Treasury Department's chief economist, Michael Darby, sent a letter to the members of the Federal Reserve Board urging the Fed to speed up monetary growth. As it turned out, Darby's fears of a recession in the aftermath of the stock market crash were unfounded. The Fed was wise to maintain its independence and ignore this blatant attempt of the executive branch to influence monetary policy.

The Fed's fear of inflation and its willingness to incur the risk of recession in the battle against inflation are ideas that are shared by most Americans. Price inflation is often cited by respondents to Survey Research Center surveys as the basis for their expectations concerning personal finan-

cial and business conditions, two important components of the SRC Index of Consumer Sentiment; and movements in the index frequently represent reactions to price inflation. In fact, the sustained decline in the index in the 1970s and the sustained high level of the index since 1983 can both be attributed to changes in consumer fears about inflation (see the chart). The simple fact is that the Fed is responsive to and shares the public's concern with inflation. The Fed's massive assault on inflation in the early 1980s was in tune with both public and political opinion.

For well over a year the Fed has apparently been maintaining monetary policy on a roller coaster as it juggles policy to accommodate various economic goals. At first it followed a vigorously expansionary policy in an effort to lower interest rates and bring down the foreign exchange value of the dollar. This policy was dictated by a desire to right the ominous trade deficit. Rapid expansion of the money supply and a dollar that went into a fearsome free fall brought about renewed fears of inflation and a sharp reversal in policy. By the end of 1987, policy was dominated by fears of a recession induced by the market crash. Nevertheless, throughout early 1988 the Fed flirted repeatedly with a tighter monetary policy as it reacted to indications that inflationary pressures were emerging. By mid-summer, the possibility of an election-year recession had pretty much disappeared; and Greenspan warned Congress in his mid-year testimony that short-term interest rates are likely to rise because "at this juncture [the Fed] might be well advised to err more on the side of restrictiveness rather than of stimulus." This is hardly the type of policy making that we would expect from an institution that is truly removed from the public's and the president's concerns.

In fact the Fed appears to be nervously juggling the immediate effects of its actions on three public concerns. First, the Fed is eager to avoid a recession in an election year. But it does not want to be accused of stimulating the economy in order to assist the campaign needs of the party in power, an accusation that has been made before. Second, the Fed would like to see the trade deficit reduced quickly. Third, it would like to avoid a renewal of inflation from high import prices and wage pressures emerging



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

from a labor market that is tighter than it has been in over a decade. If anything, the Federal Reserve should have more independence so it can follow a more stable policy which would lead to gradual improvement in the trade deficit without the possibility of jerking the economy into either a recession or a renewal of inflation.

Fiscal Policy

Fiscal policy is more difficult to discuss because for all intents and purposes we do not have any. For almost a decade the Congress and the president have gone through the motions of trying to create a tax system and an expenditure plan for the government that generate a reasonably balanced budget. There have been several legislative efforts to bring this about, including the Gramm-Rudman-Hollings Act, which has been largely ineffectual, and a proposed balanced budget amendment to the constitution, which is largely rhetoric. This stalemate is a reflection of the absence of a public consensus concerning the sacrifices which should be made to reduce the budget deficit.

A major legacy of the Reagan years has been the inability of the government to deal seriously with the deficit. On the tax side of the budget there has been some success. Some of the excesses and mistakes of the original supply-side legislative effort have been corrected by the Tax Reform Act of 1986, which is viewed as a small but clear step toward a more efficient revenue system. Nevertheless, any serious efforts at restructuring the budget and solving the chronic deficit problem are clearly on the back burner until a new president takes office in 1989. The deficit has declined somewhat because the economy has been more robust than expected and interest rates lower than anticipated and not because of any constructive efforts to change policy.

Policy Prospects

The government entities responsible for setting macroeconomic policy are well aware of the challenges that they face. Each winter the government agencies concerned with macroeconomic policy prepare their annual evaluations of the problems of and prospects for the economy. These remarkably lucid statements are the *Economic Report of the President*, prepared by the Council of Economic Advisers in the White House; *Monetary Policy Objectives*, the Federal Reserve's report to the Congress; and *The Economic and Budget Outlook*, the Congressional Budget Office's report to the Senate and House Budget Committees. The three make interesting reading and cause one to wonder why the implementation of policy is not more effective.

The reason why policy may be less than ideal is hinted at by a disturbing note that runs through all three of the February 1988 reports. In each one there is a tendency to lay the blame for our problems at someone else's door.

Fed chairman Greenspan concluded his February 23rd congressional testimony by saying:

We face formidable challenges over 1988 and beyond in meeting national economic goals of sustaining growth and progress toward price stability. Some of these relate to the short-run outlook for the economy, as the possible effects of the stock market decline and the build-up of inventories late last year work through in 1988.

But our more fundamental task remains managing the process of restoring internal and external balance that is now underway. This is a challenge that cannot be negotiated by the Federal Reserve alone. It will require complementary and consistent actions by our colleagues in the Congress and the administration, as well as by our major trading partners....

The *Economic Report of the President* opens with unbridled praise for the Reagan administration:

The longest peacetime expansion in the history of the U.S. economy entered its sixth year in 1987. Growth was vigorous.... The unemployment rate dropped ... to its lowest level in 8 years.... Significant improvement [was made] in the real trade deficit.... Dramatic progress was made in reducing the federal budget deficit.... [This] did not occur by accident. It was shaped by government policies explicitly directed toward fostering the inherent dynamism of the private sector.

However, in discussing the activities of the Federal Reserve, the *Report* is critical:

Immediately following the ... drop in the Dow, the Federal Reserve's operations were exemplary.... While it was appropriate for the conduct of policy to change subsequently ..., the stance of monetary policy at the end of 1987 may have underestimated the risks to adequate economic growth.

The Congressional Budget Office is a bipartisan group that carefully avoids political judgments except when it comes to our major trading partners, whose monetary and fiscal policies are criticized. The CBO emphasizes the absence of international policy coordination as the source of the American trade deficit and places little emphasis on the budget deficit.

A significant failing of our policy makers is their inability to coordinate activities and consider the longer-run implications of our macroeconomic policies. The relative success of the American economy in the 1980s as compared to the 1970s should not obscure the fact that the way in which policy is made has not changed. An important item on the agenda of the next administration should be improved policy coordination both within the federal government between the monetary and fiscal policy authorities and among the major industrial nations.

Optimistic Small Business Firms Expect Continued Prosperity

William C. Dunkelberg

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Dean of the School of Business and Management, Temple University

Introduction

The National Federation of Independent Business currently has over 500,000 member firms, nearly one out of every seven employers in the U.S. Since 1973 NFIB has surveyed a random sample of its membership quarterly. Each sampled member receives two requests to participate in the mail survey; the response rate is typically 30 percent. Firms are queried about the levels and conditions of important economic variables and report planned changes in the variables for the immediate future. The NFIB questions and indexes are patterned after the pioneering consumer survey work of the late George Katona, a founder of the Survey Research Center.

Small firms (having under 500 employees) produce nearly half of the gross domestic product and employ half of the private work-force. Ninety percent of all firms have fewer than 20 employees, and 98 percent have fewer than 100. Small firms produce a disproportionate share of the new jobs for the U.S. economy, particularly in slow economic periods. The collective decisions of these small firms have a profound impact on the strength of the economy.

This report is based on the April 1988 quarterly survey of 1936 member firms.

Opinions about the Economy

The Small Business Optimism Index* rose from 101.8 in January to 104.5 in April, a gain of almost 3 points. Seasonally adjusted, the Index rose from 101.8 to 102.4, a modest gain of 6/10 of a point (see Chart 1).

The longer the recovery goes on, the larger is the proportion of economic agents which believes that the expansion

cannot be sustained. Firms have become decidedly less optimistic about future expansion each April, with 67 percent expecting growth in 1983 compared to 22 percent in 1988 (see the table). Apparently, many believe that the law of gravity applies to economic statistics as well as apples. Views about the possibility of further growth are about as weak now as in 1980, but for very different reasons. In 1980, 48 percent expected a deterioration, while in 1988, particularly in many regions of the country, businesses just figure it can't get any better.

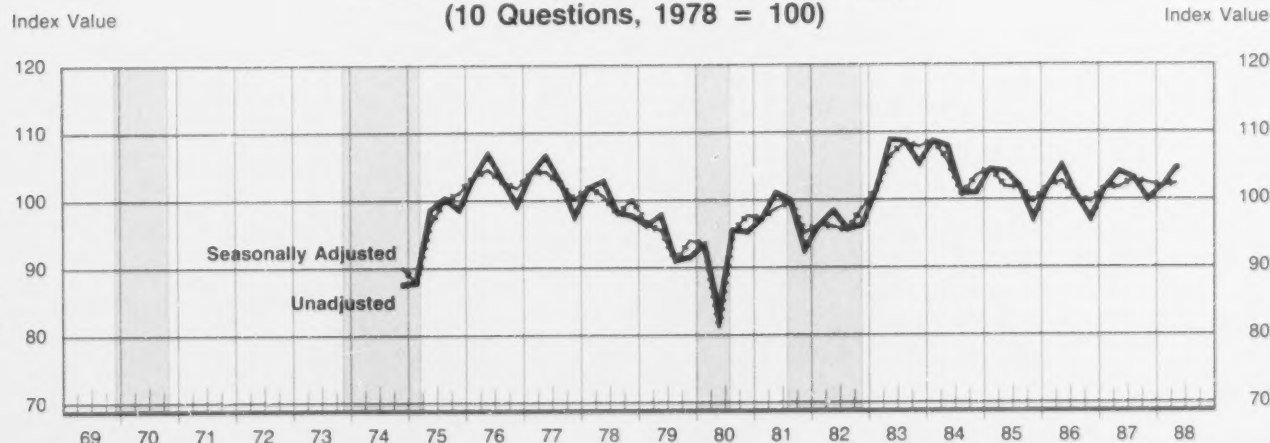
| Expectations About ... | Percent Giving Response in April of ... | | | | |
|------------------------|---|------|------|------|------|
| | 1980 | 1983 | 1986 | 1987 | 1988 |
| Business Conditions | | | | | |
| Better | 16 | 67 | 31 | 24 | 22 |
| Worse | 48 | 4 | 11 | 14 | 12 |
| Good Time to Expand | 3 | 19 | 29 | 20 | 21 |

Employment

On average, small firms increased employment by .06 employees per firm in the first quarter of 1988. Seasonally

*The Index is based on 10 questions, including plans for hiring, capital spending and inventory change, earnings trends, current satisfaction with inventories, expected economic conditions, the climate for business expansion, job openings, expected real sales, and expected credit conditions.

**CHART 1. Small Business Optimism Index
(10 Questions, 1978 = 100)**



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

adjusted, it was the strongest first-quarter hiring performance since 1984, following January's stunning gains (the best since 1978). Firms apparently retained many employees from the fourth quarter and continued to increase employment, offsetting typical seasonal declines. Fifteen percent of all firms added an average of 3.7 workers to payrolls, and 13 percent cut employment an average of 4 workers.

Manufacturing firms were the heavy employers in the first quarter, adding an average of 7/10 employees per firm. The weak dollar has certainly improved the outlook for manufacturers.

Plans to add to employment were the strongest since 1978, when 26 percent of all firms planned to increase employment. Twenty-five percent of the firms plan labor force additions in the next three to six months, led by manufacturing, where 33 percent plan to increase employment (see Chart 2). Only 5 percent (of all firms) plan reductions.

Job openings — reported by 22 percent of all firms — stood at one point below the expansion-high level of 23 percent reached in January. This suggests that the nation's unemployment rate will remain stable or even head south again. Openings are heavy in construction (27 percent), services (29 percent), and manufacturing (29 percent). In New England, an astounding 50 percent of all firms have at least one job opening, up from 42 percent in January.

Inflation

In the April 1988 survey, the percent of firms planning to raise prices fell 3 points from January levels to 24 percent of all firms, 5 points above the 19 percent recorded in April of 1987 and 1986 (see Chart 3). Although not large, there is a clear upward drift in the percent of firms planning to raise prices. Wholesale firms planned price hikes most frequently (33 percent), followed by construction (28 percent) and retailing and services (25 percent).

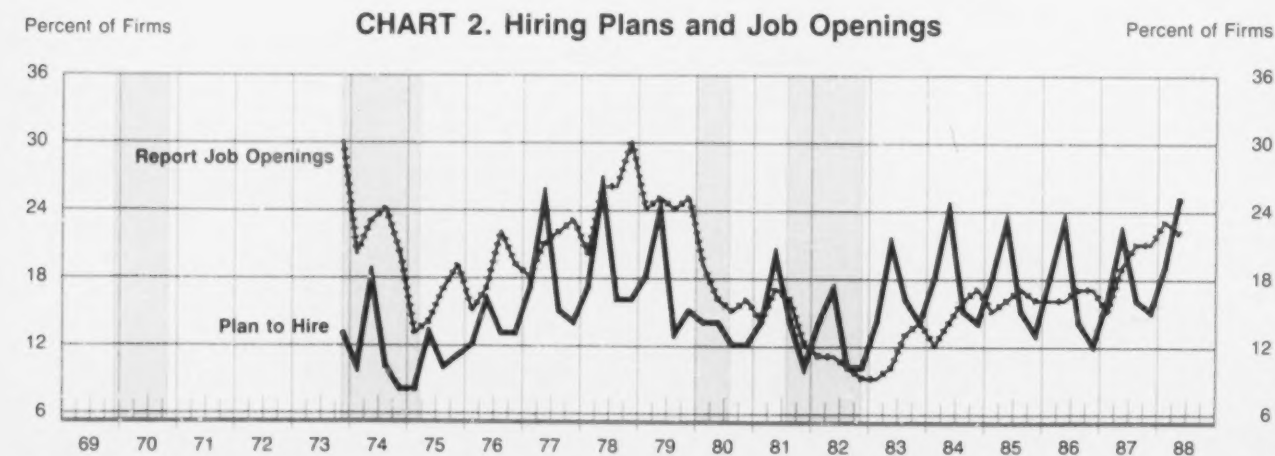
Based on plans to raise prices, non-food inflation should start to pick up, heading toward the 5 percent level.

Reports of actual price increases continue to rise, supporting the general perception that prices in general may be on the way up. Reports of price increases in the first quarter (30 percent) were the highest since 1981.

With import prices on the rise (providing domestic producers room to raise prices) and wage costs starting to stiffen in the face of still-strong demand and tight labor markets, 1988 could deliver a bit more inflation than currently expected. However, it should be remembered that general inflation is a *monetary* phenomenon. Absent supporting increases in the money supply, rising prices in growing sectors should be offset by declines elsewhere, as demand weakens in less popular sectors. The role of prices is to signal resource reallocation. Where demand grows, prices and profits rise to generate the needed investment and increase in capacity and to attract labor. Where demand falls and profits fade, prices should fall, encouraging resources to leave for greener pastures. With downward price inflexibility, a persistent characteristic of today's economy, these kinds of price changes can be confused with general monetary inflation, as both raise the average level of prices. The challenge for the monetary authority is to determine the extent to which the price changes that are occurring are reasonable and desirable before acting to snuff out an inflation that may not in fact be present.

Labor Costs

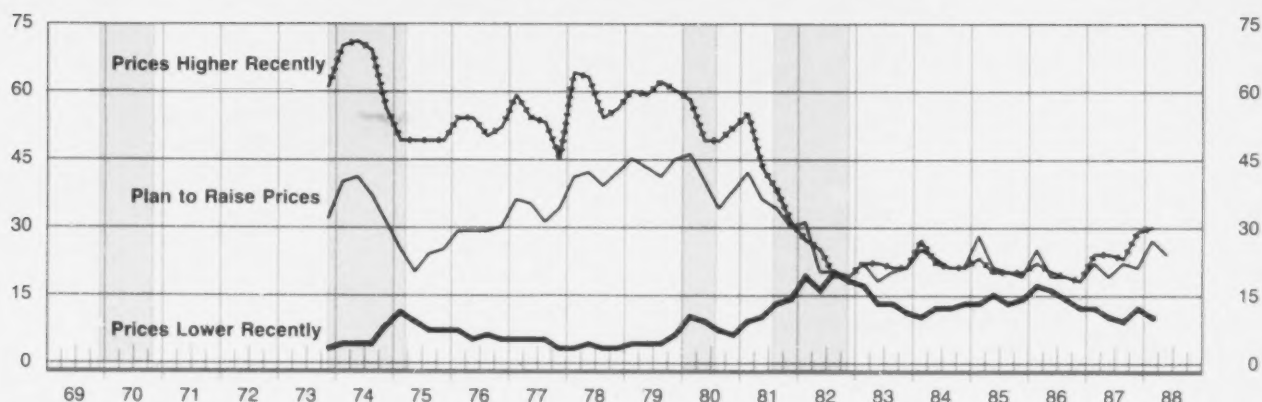
Of all firms surveyed in April, 24 percent reported increases in employee compensation, up one percentage point from the fourth quarter figure. With job openings at expansion-high levels, there is still little evidence that compensation might be responding to any tightness in the labor market. Seventy-five percent of the firms that increased compensation reported gains of less than 7 percent, producing an average gain of 5.6 percent, somewhat lower than the average for 1987, but still typical of expansion figures. Including those firms not changing compensation, the overall increase in compensation was 1.4 percent for all firms for the quarter, about 5.6 percent at annual rate.



Percent of Firms

CHART 3. Past and Planned Price Increases

Percent of Firms



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

Plans to raise compensation fell a surprising 4 percentage points to 20 percent of all firms, but remained several points above the April figures of the past few years. The average planned increase was 5.5 percent. Including firms not planning any increases, the overall planned increase was 1.1 percent, or about 4.5 percent at an annual rate.

With employment at a record-high percentage of the over-16 population, and small-firm job openings at expansion-high levels, some upward pressure on compensation might be expected. However, the impact of operating in a world "labor market" (through the competition for final goods markets) coupled with good inflation experience seems to be keeping the lid on wage increases.

In this new environment, with differing labor demands, it will be interesting to see how low the unemployment rate can go before we encounter significant labor shortages. Structurally adjusted (for age and sex), the current unemployment rate must certainly be "full employment." At least for 1988, we will be fortunate to have the engine of the expansion located in the manufacturing sector, where there still probably exists a fairly fluid labor supply left from the devastation of manufacturing in the early 1980s (hiring plans are high, but few firms report job openings they cannot fill).

Capital Expenditures

Plans to make capital outlays were expressed by 33 percent of all firms (32 percent, seasonally adjusted) in the April 1988 survey, down slightly from the January reading (see Chart 4). The January figure (35 percent) was the largest percentage of firms to report capital spending plans in the history of the NFIB surveys. Actual outlays during the last six months were reported by 55 percent, one of the higher figures in the expansion (but well below the record-high level of 64 percent attained in 1979).

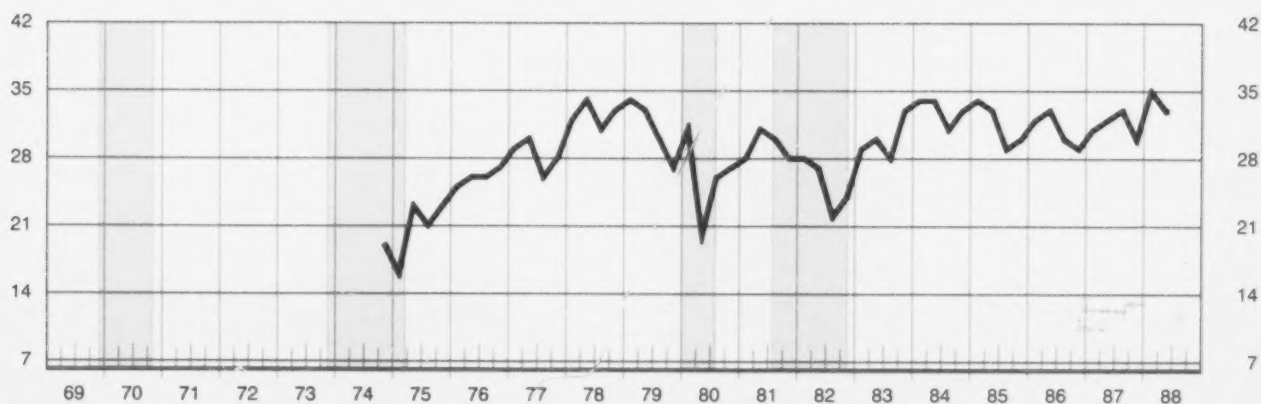
The frequency of outlays for new equipment and vehicles rose slightly to 45 percent. The proportion of firms making outlays for new structures fell 2 points to 6 percent, while the percent making improvements to existing structures rose one point to 16 percent of all firms. Three percent reported the acquisition of new land for future expansion, down 3 points from the highest figure in this decade reported in January.

The percent of firms reporting outlays for new structures has been stuck around 7 percent for the last seven years, and has been unaffected by the shift from recession to expansion. Smaller capital outlays (under \$20,000) were reported by 34 percent of all firms, while 6 percent

Percent of Firms

CHART 4. Planned Capital Outlays During Next 6 Months

Percent of Firms



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

reported outlays of \$100,000 or more. These figures were little changed from fourth-quarter levels and only marginally better than 1981 levels.

Plans remain strong in spite of the stock market collapse, and actual spending is headed in the right direction. There is certainly no indication that capital spending will collapse, and with profits holding ground, particularly in manufacturing, the floor may stay under capital spending during the first half of 1988. Capital spending will shift its focus somewhat from productivity and cost reduction to outright capacity expansion, but — in comparison to the 1960s — cost control will account for a substantially higher portion of the capital spending pie. There is little risk that capacity will grow too fast and create recessionary pressures through an overhang of excess capacity.

Inventory Investment

The April survey revealed that plans to add to inventories increased in frequency in spite of a dramatic drop in satisfaction with current inventory holdings in January. Apparently, firms were able to reduce holdings to their satisfaction via strong sales in the first quarter, or the expectation of stronger sales has made firms more comfortable with current stocks. In the April survey 21 percent of firms reported actual inventory gains in the past few months, slightly below the 23 percent which had planned to increase holdings. Fifteen percent reported reductions, 5 percentage points more than had planned reductions in January. This leaves small firms in a strong inventory position, satisfied with current holdings and planning accumulations with a strength typical of second-quarter periods in the current expansion.

Twelve percent of firms reported inventory stocks too high, a decline of 5 points from the January survey, which displayed the lowest levels of inventory satisfaction since 1982. Apparently, accumulations of new inventory were pervasive in the first quarter, with the proportion reporting "higher" inventories exceeding those reporting "lower" by 13 points in retailing, 12 points in wholesale trades, and 10 points in manufacturing.

Retailers seem prepared to take the inventory off the hands of the wholesale firms, as the percent planning to add to inventories exceeded the percent planning reductions by 10 percentage points. Those planning to add to inventories exceeded those planning reduction in every industry classification.

Borrowing Activity and Interest Rates

In the first quarter 1988 survey, the average interest rate paid for short-term money fell to 10.9 percent. Fifty-one percent of the loans made were tied to the prime rate, exposing more small firms to the risk of rapidly rising interest rates.

The pace of borrowing activity fell to a record low 36 percent of all firms. The percent of firms borrowing regularly has not exceeded 44 percent and has only twice risen above 42 percent since 1981, after exceeding 50 percent in

the late 1970s. High real (inflation-adjusted) money costs are discouraging borrowing, especially with inflationary profits missing from inventory holdings. Profits remain strong as well, providing the internal cash needed to meet many financing demands.

The percent of firms reporting that they faced higher rates when borrowing fell from 26 percent in October to 12 percent in January and then to 7 percent in April. Only 2 percent of all firms expect credit conditions to ease further, while 8 percent expect tightening. The proportion of firms reporting that loans were "harder to get" has varied between 6 and 9 percent since 1982, well below the 27 percent reporting loans harder to get in 1980. Credit was even more available in the 1976-77 period, when as few as 4 percent reported loans harder to get. Thus, from the standpoint of credit availability, monetary policy does not appear to have been particularly restrictive during the past four years, nor is it a problem now. Credit demands seem to have fallen for small firms in spite of heavy consumer, government, and financial market demands.

A Concluding Note on Policy

The federal budget deficit has become the symbol (rightly so) of the inability of the U.S. to "live within our means." The spending demands of government, consumers, and businesses exceed our capacity to produce. Consequently, the credit demands of these sectors exceed U.S. savings, and we must borrow from the rest of the world to finance the spending appetites of these three sectors. It should be no surprise that the budget deficit, the trade deficit, and net capital inflows are all about the same size. We are trying to spend \$150 billion more than we produce (and earn). To do that, we must borrow; but savings are inadequate in the U.S., and so we borrow the savings of other nations (producing a capital inflow to the U.S.). The money we borrow is used to pay for the goods we must import. Each year, the claims held by foreigners who lend to us accumulate, increasing the "servicing" burden (interest and profits earned by foreign holders of U.S. assets).

Congress still has the opportunity to effectively eliminate the deficit without severely impacting the economy, by allowing growing domestic demand to pick up the slack created by spending adjustments. However, this is not (politically) likely to happen. Except for already obvious reductions in defense spending now built in to the budget for the next few years, Congress shows little inclination to slow the growth of nondefense spending and entitlements and is creating an ever-growing agenda of new spending programs that it would like to implement.

Editor's Note: As OUTLOOK went to press, results from the July NFIB survey became available. Overall, they were quite consistent with the April survey results, though some differences emerged. The Small Business Optimism Index was down about two points from the April reading (seasonally adjusted), and the proportion of firms reporting that now is a good time to expand was also down about two points. Further, inflationary pressures seem to be mounting, with a trend toward more frequent and larger price increases — both actual and planned — having become more evident recently. But the author reports that "there is no sign that the economy is poised to enter a recession."

Cautious Optimism among Consumers

Richard T. Curtin
Director, Surveys of Consumers
Survey Research Center
The University of Michigan

Persistent Strength

The most recent surveys indicate that consumer confidence has regained the very favorable levels recorded before the stock market crash. In the second quarter surveys, the Index of Consumer Sentiment was 93.6, up from the depressed fourth quarter 1987 reading of 86.4 (see the chart below). The recovery from the stock market crash was rapid, with most of the gain recorded by the end of the first quarter, when the Index rose to 92.3.

This is not the first time in this long expansion that the persistent strength in consumer confidence has confounded the pessimists. For the past five years, consumer sentiment has been more favorable than anytime since the mid-1960s. Since the second quarter of 1983, only in the fourth quarter of 1987 has the Index fallen below 90; during the five years prior to that the Index never reached 90. Overall, the Index has averaged 93.6 during the past five years, with the second quarter 1988 reading exactly equal to that average.

To be sure, this long expansion has been marked by divergent trends in consumer attitudes and expectations. The Index components that reflect expected improvement have gradually weakened since reaching a cyclical peak at the start of 1984, while the components that reflect assessments of current economic conditions have generally strengthened (see the top chart on p. 21). At present, it is not so much that further improvement is expected, but that consumers expect that the gains won over the long expansion will be maintained during the year ahead.

Since the start of 1988, consumers have become increasingly concerned with rising interest rates and, more recent-

ly, with rising inflation. Both of these concerns strike at the core of the current strength in consumer confidence and represent a serious threat to its continued maintenance at high levels. Offsetting these concerns, consumers continue to favorably view income and employment prospects for the year ahead.

Higher Inflation Rate Expected

Consumers expected the rate of inflation to average 5.0% during the year ahead in the second quarter 1988 surveys, up from 4.3% one quarter and one year earlier (see the bottom chart on p. 21). Importantly, these price expectations have risen sharply in the months from April to June, rising from 4.5% to 5.6%, as the extensive media coverage given to the drought has heightened fears of potential increases in food prices. This is the highest rate of inflation expected by consumers in more than four years.

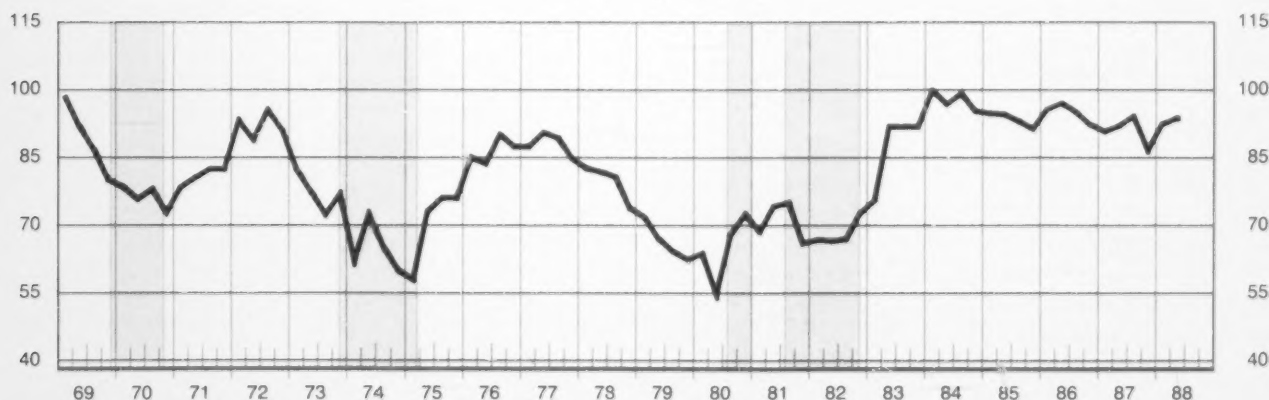
Personal Finances: Strong but Vulnerable

Despite the heightened awareness of potential increases in inflation during the year ahead, at present American families continue to view their own personal financial situation in favorable terms, even if somewhat diminished from prior readings.

Among all families in the second quarter 1988 surveys, 41 percent reported that they were financially better off than a year earlier, just below the 43 percent recorded one year ago. Income increases were reported by 30 percent of all families in the second quarter of 1988, also just below the year-earlier figure of 33 percent. Only 10 percent singled

INDEX OF CONSUMER SENTIMENT

February 1966 = 100



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

out recent price increases as the cause of a worsened financial situation, largely unchanged from one and two years earlier.

Although these evaluations of personal financial progress have suffered some recent declines, they nonetheless remain very favorable by historical standards. In the 114 quarterly readings since 1960, only in 23 quarters has 40 percent or more of respondents reported being financially better off. Moreover, 19 of these 23 quarters have occurred in the current expansion — from the fourth quarter of 1983 to the present. These favorable evaluations have been due more to low and stable inflation rates than to gains in nominal incomes. Only in the early 1960s did fewer families cite rising prices as the cause of worsening finances.

It has not been just the low rate of inflation that has promoted more favorable assessments, but that the inflation rate has remained relatively stable at those low rates. The uncertainty caused by the inflation of the 1970s led to a pervasive sense of economic insecurity and an inability to plan ahead. The lower and more stable inflation rates that have prevailed since then have given consumers a new sense of confidence in their ability to make financial plans and provide for future financial needs.

A resurgence in inflation, concentrated in food prices, makes these gains especially vulnerable to reversal. Thus far, the expectation of rising prices has only had a minimal impact on personal financial prospects for the year ahead. In the second quarter 1988 surveys, 36 percent of all families expected their financial situation to improve, between the 39 percent recorded one quarter earlier and the 34 percent recorded one year earlier. Importantly, just 9 percent of all families in the second quarter of 1988 expected their financial situation to worsen during the year ahead.

Although expected inflation rates have demonstrated a high correspondence with personal financial prospects over the past quarter century, the minimal impact thus far recorded reflects several factors. First, it reflects the initial and tentative reaction of consumers to the potential impact from the drought. Only if these initial fears are reinforced by further adverse developments during the months ahead will the impact of these higher inflation expectations be felt. Second, although inflation expectations have increased, they are still modest when compared with the rates experienced in the past. And finally, recent income gains have been strong and have partially offset the expected losses due to inflation.

Outlook for Economy Rebounds

Consumers' evaluations of prospects for the national economy have posted a strong recovery from the low levels recorded following the stock market crash. In the second quarter 1988 surveys, 53 percent expected good times financially in the country as a whole during the year ahead, up from a low of 41 percent in the fourth quarter of 1987, and just above the year-earlier figure of 51 percent. Although this represents a substantial decline from the 69 percent recorded at the start of this expansion, it still

remains as favorable as the peak levels recorded in the prior expansion.

Longer-term prospects for the national economy have also improved, but the balance of opinion still points toward bad rather than good times financially over the next five years. Among all families in the second quarter 1988 surveys, 38 percent expected bad times financially over the longer run compared with 44 percent that expected bad times in the economy as a whole. Despite its negative cast, this represents the most optimistic reading in more than a year.

More than any other facet of consumer sentiment, longer-term economic prospects have been the most troublesome to consumers. Although most other economic assessments have been more favorable in the 1980s than anytime since the 1960s, consumers' assessments of the longer-term prospects for the economy have never reached the high levels recorded earlier. In the current expansion, the proportion of families that expected the reoccurrence of a recession over a five year horizon has never fallen below 33 percent. In comparison, during the 1960s as few as 11 percent of all families expected a recession over the longer term. The optimism of the 1980s has always been tempered by the realization that significant economic challenges remain on the horizon.

The major concern about the long-term vitality of the economy has been employment prospects. The recent gains in the international competitiveness of U.S. products, due to the decline in the value of the dollar, has improved short-term prospects for employment. In the second quarter 1988 surveys, the majority of families expected the unemployment rate to remain unchanged at its current ten year low during the year ahead — at 59 percent, it was the highest proportion to expect an unchanged unemployment rate ever recorded. Increases in the national unemployment rate were expected by 27 percent of all families, the lowest proportion recorded in more than two years. For the consumer, these favorable prospects represent the primary source of the current strength in the national economy.

Interest Rate Increases Expected

Interest rates were expected to increase by 60 percent of all families in the second quarter 1988 surveys. This represents a sharp rise from the post-crash low of 49 percent recorded one quarter earlier and returns interest rate expectations to the very unfavorable levels recorded in the second and third quarters of last year. Just 10 percent of all families expected interest rates to decline during the upcoming year.

Buying Attitudes Remain Favorable

Attitudes toward buying conditions for homes, vehicles, appliances, furniture, and home electronics have remained at favorable levels in the recent survey.

Favorable attitudes toward buying conditions for homes were held by 72 percent of all families in the second

quarter 1988 surveys. This represents an improvement above the 1987 year-end low of 65 percent, but remains below the 77 percent recorded one year earlier and the all-time peak of 85 percent recorded two years earlier. As shown in the chart, sales of new and existing single family homes in the second quarter of 1988 posted the first quarterly increase since the end of 1986. The fourth quarter 1986 peak in home sales followed the peak in favorable home buying attitudes reached earlier in 1986.

Favorable attitudes toward buying conditions for appliances, furniture, and home electronics were held by 75 percent of all families in the second quarter 1988 surveys. This reading was identical to the year-earlier figure and was the highest proportion recorded since mid-1986. Since 1960, there have been only three quarterly readings that exceeded 75 percent — all recorded in 1986.

Favorable vehicle buying attitudes were held by 63 percent of all families in the second quarter of 1988, just below the year-earlier reading of 65 percent, and significantly below the all-time peak of 76 percent recorded two years earlier. Total unit sales of cars and light trucks remained at very favorable levels during the first half of 1988, showing only a very small decline in the second quarter (see the chart). The pattern of quarterly sales rates are dominated by the third quarter peaks, corresponding to the periods of deep discounting by vehicle manufacturers — a pattern that consumers have now come to expect.

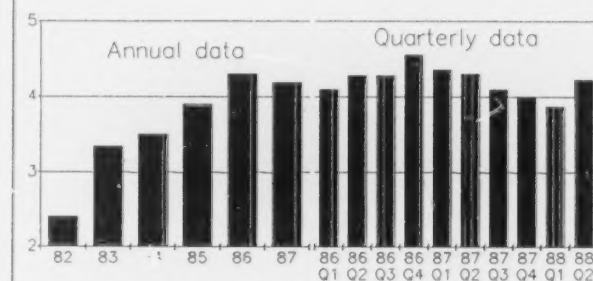
Changing Purchase Rationales

Although the overall incidence of favorable buying attitudes has remained high, the reasons given by consumers for the favorable attitudes have changed substantially. Compared with a year earlier, consumers much less frequently cited the availability of low interest rates on credit purchases in the second quarter of 1988. When asked about home buying conditions, the proportion of families that cited low mortgage rates fell to 37 from 52 percent during the past year, and for vehicle purchases favorable mentions of low interest rates fell to 18 from 36 percent.

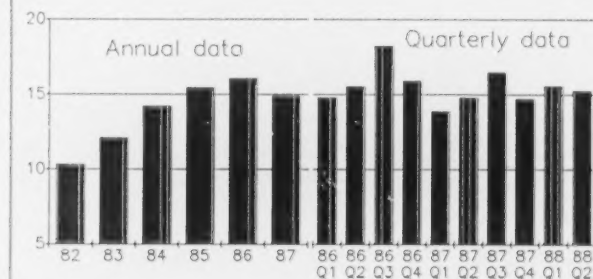
But the opposite was not true: complaints about high interest rates have not increased in frequency. Thus, increases in interest rates have meant that current rates are no longer viewed as a positive attraction, but thus far the extent of those increases has not been viewed as a cause for postponement of purchases.

Indeed, rather than postponement, consumers are now as likely apt to cite the appeal of borrowing-in-advance of rising interest rates. In the second quarter 1988 surveys, as many families mentioned the appeal of borrowing-in-advance of rising mortgage rates as thought that current

Total Home Sales (Millions of Units)



Total Car and Light Truck Sales (Millions of Units)



mortgage rates were already too high and cause for postponement (13 versus 11 percent).

In contrast to their reaction to impending interest rate increases, consumers are not likely to react to escalating prices with advance buying. Their inflation fears are focused on food prices, not on the prices of homes, vehicles, appliances, furniture, or home electronics. Quite the contrary: consumers still expect, and are willing to wait for, price discounts.

This continued reliance on discounts is nowhere more evident than in the vehicle market. Unlike home buying attitudes, references to borrowing-in-advance of rising interest rates on vehicle loans have not increased in frequency. This reflects the now more common reaction of consumers to wait for renewed discounting by vehicle manufacturers rather than to speed up their purchases.

Actual and Projected Economic Indicators

seasonally adjusted

| SERIES FORECAST BY THE ASA-NBER PANEL | | | | | | | | | | | | | |
|---|----------------|---------|---------|---------|---------|-----------|---------|---------|---------|---------|-------------|-----------|---------|
| ECONOMIC INDICATOR | Quarterly Data | | | | | | | | | | Annual Data | | |
| | Actual | | | | | Projected | | | | | Actual | Projected | |
| | 1987:2 | 1987:3 | 1987:4 | 1988:1 | 1988:2 | 1988:2 | 1988:3 | 1988:4 | 1989:1 | 1989:2 | 1987 | 1988 | 1989 |
| GROSS NATIONAL PRODUCT* | 4,482.2 | 4,568.0 | 4,662.8 | 4,724.5 | 4,819.7 | 4,799.4 | 4,868.7 | 4,947.6 | 5,026.2 | 5,099.5 | 4,526.2 | 4,832.3 | 5,136.6 |
| GNP IMPLICIT PRICE DEFLATOR*
(index, 1982 = 100) | 117.3 | 118.2 | 118.9 | 119.4 | 120.9 | 120.5 | 121.6 | 122.9 | 124.1 | 125.2 | 117.7 | 121.1 | 126.0 |
| CORPORATE PROFITS AFTER TAXES* | 141.1 | 149.5 | 145.7 | 149.4 | 166.6 | 151.4 | 153.5 | 157.6 | 158.8 | 158.6 | 141.3 | 153.2 | 159.1 |
| UNEMPLOYMENT RATE (percent) | 6.23 | 5.97 | 5.90 | 5.70 | 5.43 | 5.50 | 5.50 | 5.50 | 5.50 | 5.50 | 6.18 | 5.60 | 5.65 |
| INDUSTRIAL PRODUCTION
(index, 1977 = 100) | 128.2 | 130.9 | 133.2 | 134.5 | 136.0 | 135.4 | 136.2 | 137.5 | 138.0 | 139.0 | 129.8 | 136.0 | 139.4 |
| NEW PRIVATE HOUSING
UNITS STARTED (millions)* | 1.606 | 1.619 | 1.533 | 1.477 | 1.477 | 1.520 | 1.520 | 1.500 | 1.460 | 1.480 | 1.634 | 1.500 | 1.500 |
| CONSUMER PRICE INDEX (annualized
percent change from prior quarter or year)* | 4.94 | 3.94 | 3.59 | 3.40 | 4.79 | 4.15 | 4.33 | 4.60 | 4.65 | 4.70 | 3.70 | 4.00 | 4.80 |
| 3-MONTH TREASURY BILL RATE (%) | 5.73 | 6.03 | 6.00 | 5.76 | 6.23 | 6.15 | 6.40 | 6.60 | 6.63 | 6.63 | 5.83 | 6.20 | 6.20 |
| NEW HIGH-GRADE CORPORATE
BOND YIELD (percent) | 9.65 | 10.14 | 10.37 | 9.64 | NA | 9.85 | 10.10 | 10.27 | 10.24 | 10.25 | 9.69 | 10.00 | 10.29 |
| GNP IN 1982 DOLLARS* | 3,823.0 | 3,865.3 | 3,923.0 | 3,956.1 | 3,988.1 | 3,978.9 | 4,004.2 | 4,037.6 | 4,064.6 | 4,084.2 | 3,847.0 | 3,999.1 | 4,091.8 |
| PERSONAL CONSUMPTION
EXPENDITURES (1982 dollars)* | 2,516.6 | 2,545.2 | 2,531.7 | 2,559.8 | 2,577.2 | 2,576.7 | 2,588.8 | 2,599.4 | 2,614.3 | 2,625.8 | 2,520.9 | 2,580.4 | 2,633.0 |
| NONRESIDENTIAL FIXED
INVESTMENT (1982 dollars)* | 434.8 | 462.8 | 464.8 | 473.4 | 491.6 | 497.7 | 502.6 | 508.0 | 514.9 | 519.0 | 445.2 | 500.8 | 517.5 |
| RESIDENTIAL FIXED
INVESTMENT (1982 dollars)* | 197.6 | 192.1 | 192.7 | 189.5 | 190.0 | 195.5 | 196.0 | 194.4 | 193.9 | 193.9 | 195.2 | 195.5 | 194.4 |
| CHANGE IN BUSINESS
INVENTORIES (1982 dollars)* | 27.8 | 13.0 | 67.1 | 66.0 | 36.0 | 40.5 | 28.4 | 20.3 | 29.4 | 28.4 | 34.4 | 36.5 | 25.2 |
| NET EXPORTS (1982 dollars)* | -126.0 | -130.7 | -126.0 | -109.0 | -90.1 | -118.3 | -108.4 | -98.2 | -92.2 | -90.1 | -62.5 | -111.4 | -88.6 |
| FEDERAL GOVERNMENT
PURCHASES (1982 dollars)* | 332.1 | 342.1 | 347.7 | 327.8 | 331.0 | 335.7 | 340.3 | 343.3 | 338.2 | 339.8 | 339.0 | 338.2 | 340.3 |
| STATE AND LOCAL GOVERNMENT
PURCHASES (1982 dollars)* | 440.1 | 440.8 | 444.9 | 448.7 | 452.3 | 451.7 | 453.7 | 456.4 | 459.2 | 460.8 | 441.2 | 452.4 | 462.8 |
| | | | | | | | | | | | | | |
| SERIES FROM THE CURRENT-DOLLAR GNP ACCOUNTS | | | | | | | | | | | | | |
| ECONOMIC INDICATOR | Quarterly Data | | | | | | | | | | Annual Data | | |
| | 1986:1 | 1986:2 | 1986:3 | 1986:4 | 1987:1 | 1987:2 | 1987:3 | 1987:4 | 1988:1 | 1988:2 | 1985 | 1986 | 1987 |
| GROSS NATIONAL PRODUCT* | 4,180.4 | 4,207.6 | 4,268.4 | 4,304.6 | 4,391.8 | 4,482.2 | 4,568.0 | 4,662.8 | 4,724.5 | 4,819.7 | 4,014.9 | 4,240.3 | 4,526.2 |
| PERSONAL CONSUMPTION
EXPENDITURES* | 2,739.0 | 2,772.1 | 2,842.8 | 2,876.0 | 2,921.7 | 2,992.2 | 3,058.2 | 3,076.3 | 3,128.1 | 3,189.1 | 2,629.0 | 2,807.5 | 3,012.1 |
| GROSS PRIVATE DOMESTIC
INVESTMENT* | 686.6 | 667.8 | 653.0 | 656.4 | 685.5 | 698.5 | 702.8 | 764.9 | 763.4 | 758.2 | 643.1 | 666.0 | 712.9 |
| NET EXPORTS* | -93.0 | -101.2 | -109.1 | -114.3 | -119.1 | -122.2 | -125.2 | -125.7 | -112.1 | -88.6 | -78.0 | -104.4 | -123.0 |
| GOVERNMENT PURCHASES* | 847.8 | 868.8 | 881.8 | 886.5 | 903.8 | 915.7 | 932.2 | 947.3 | 945.2 | 961.0 | 820.8 | 871.2 | 924.8 |
| DISPOSABLE PERSONAL INCOME* | 2,965.1 | 3,016.3 | 3,032.4 | 3,064.7 | 3,143.9 | 3,154.1 | 3,224.9 | 3,315.8 | 3,375.6 | 3,421.0 | 2,838.7 | 3,019.6 | 3,209.7 |
| PERSONAL SAVING RATE*
(percent of disposable income) | 4.6 | 5.1 | 3.3 | 3.2 | 4.2 | 2.2 | 2.3 | 4.3 | 4.4 | 3.9 | 4.4 | 4.0 | 3.3 |

Note: (1) All data are at annual rates and in billions of current dollars unless otherwise indicated. (2) To facilitate comparison and evaluation of forecasts, both actual data, released in August, and projected data, released by ASA-NBER in June, are displayed for second quarter 1988. (3) ASA-NBER projections have been rescaled so that they are consistent with the GNP and components series affected by the Commerce Department's July revisions.

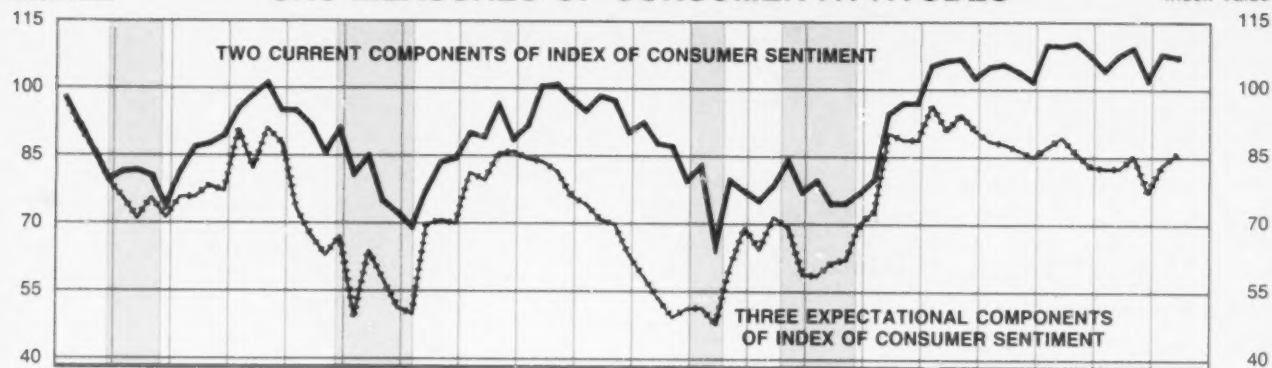
Sources: Projections: American Statistical Association—National Bureau of Economic Research panel of forecasters.
Actual Data: U.S. Departments of Commerce and Labor, Board of Governors of the Federal Reserve System.

*Substantial revision of the data for series marked with an asterisk has occurred since the last printing.

SRC MEASURES OF CONSUMER ATTITUDES

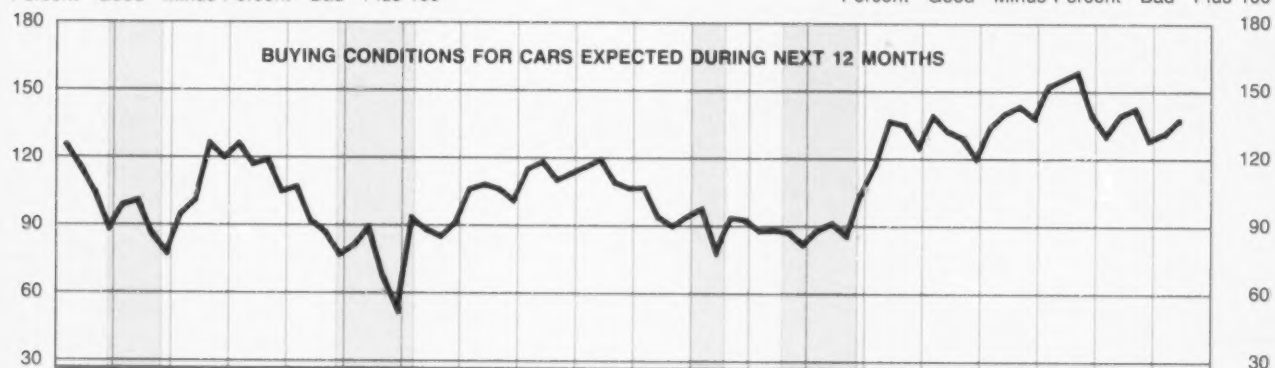
Index Value

Index Value



Percent "Good" Minus Percent "Bad" Plus 100

Percent "Good" Minus Percent "Bad" Plus 100



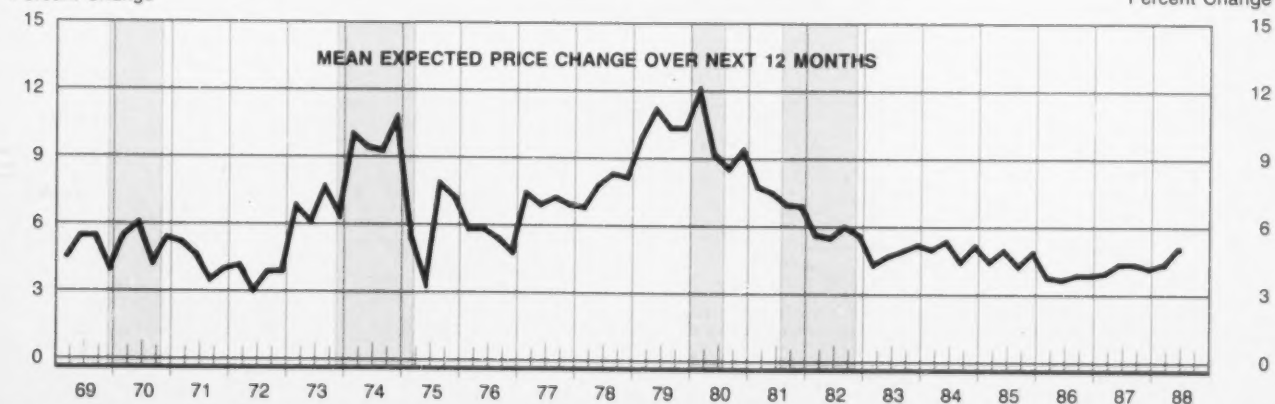
Percent "Good" Minus Percent "Bad" Plus 100

Percent "Good" Minus Percent "Bad" Plus 100



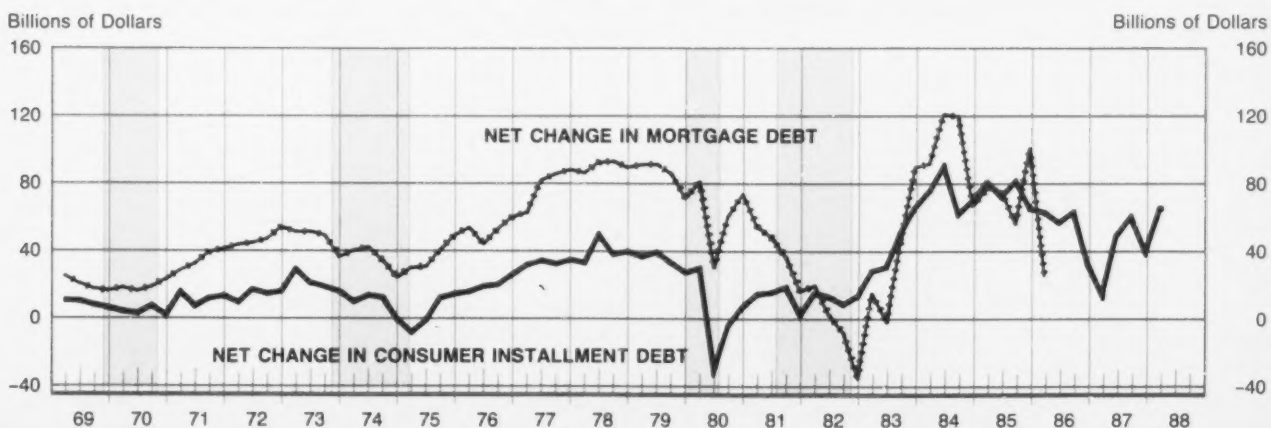
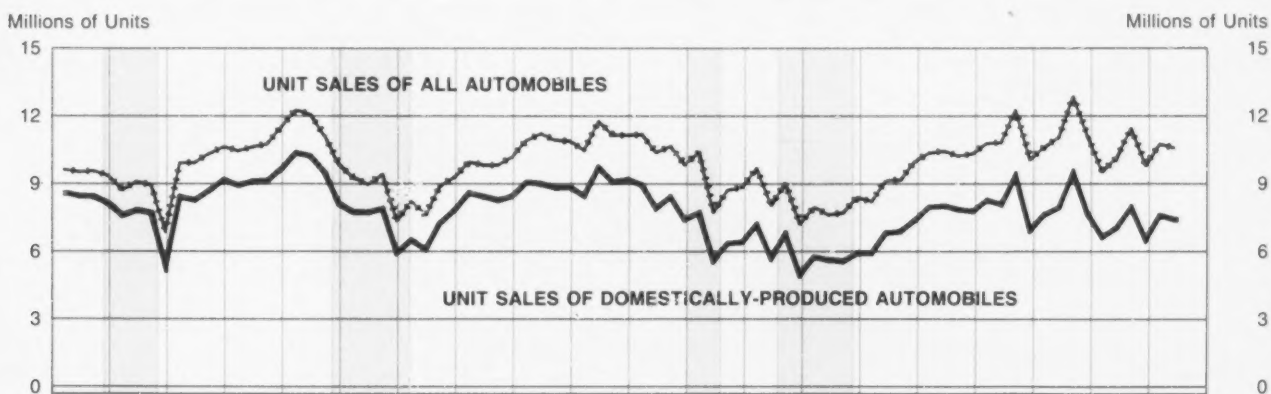
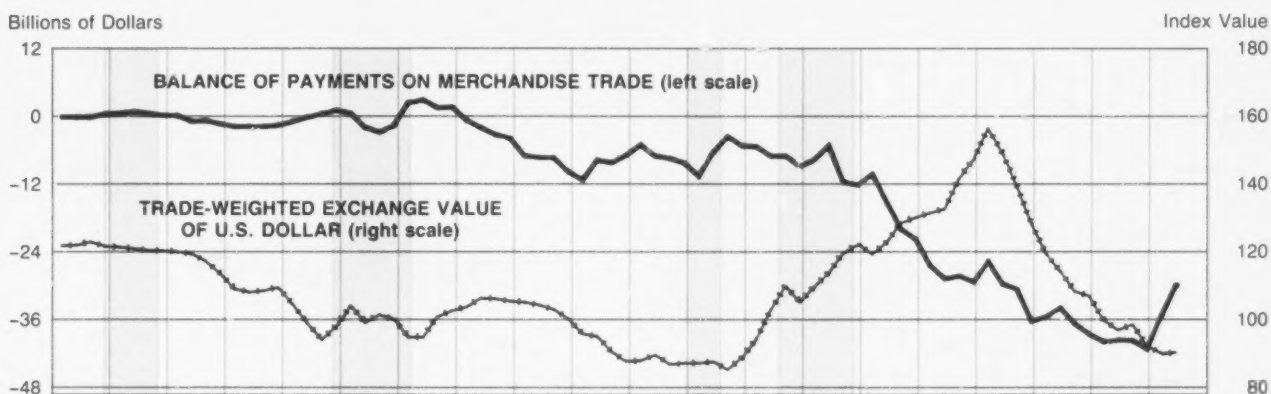
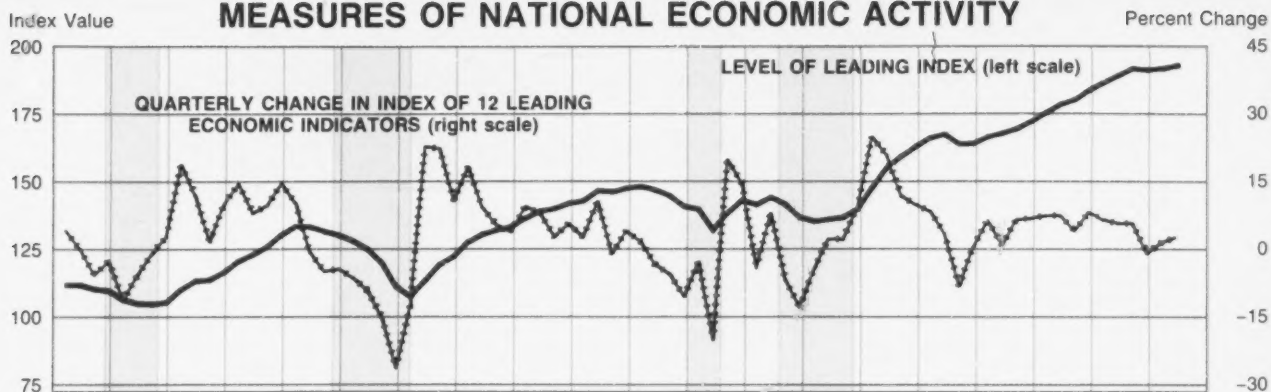
Percent Change

Percent Change



Note: Shaded areas indicate recession periods as designated by the National Bureau of Economic Research, Inc.

MEASURES OF NATIONAL ECONOMIC ACTIVITY

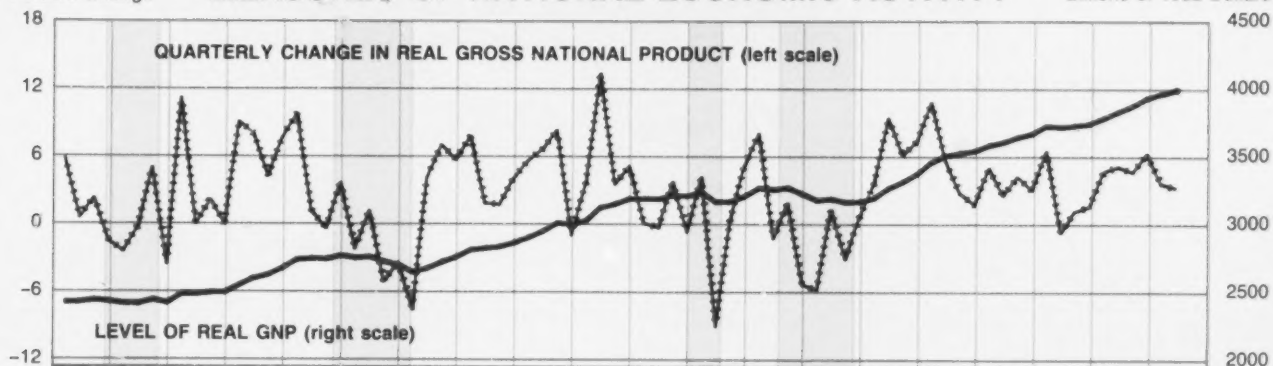


Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

MEASURES OF NATIONAL ECONOMIC ACTIVITY

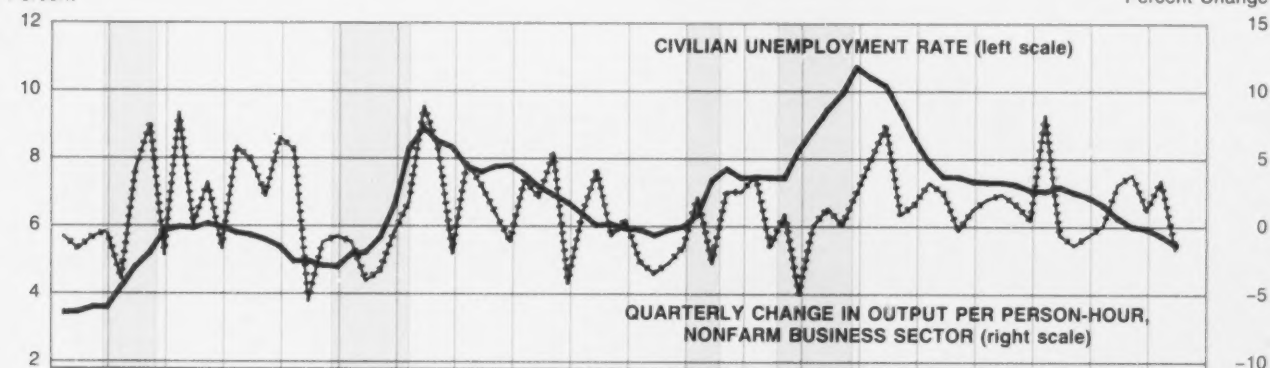
Percent Change

Billions of 1982 Dollars



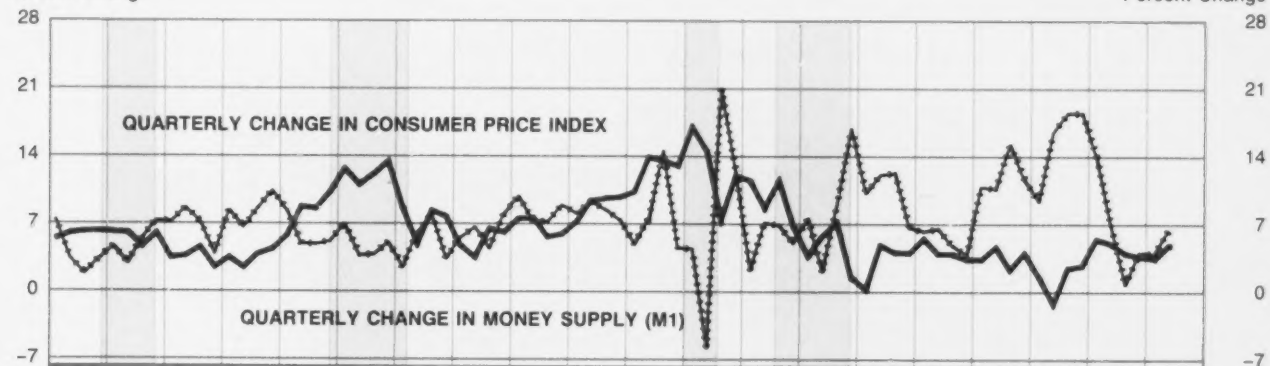
Percent

Percent Change



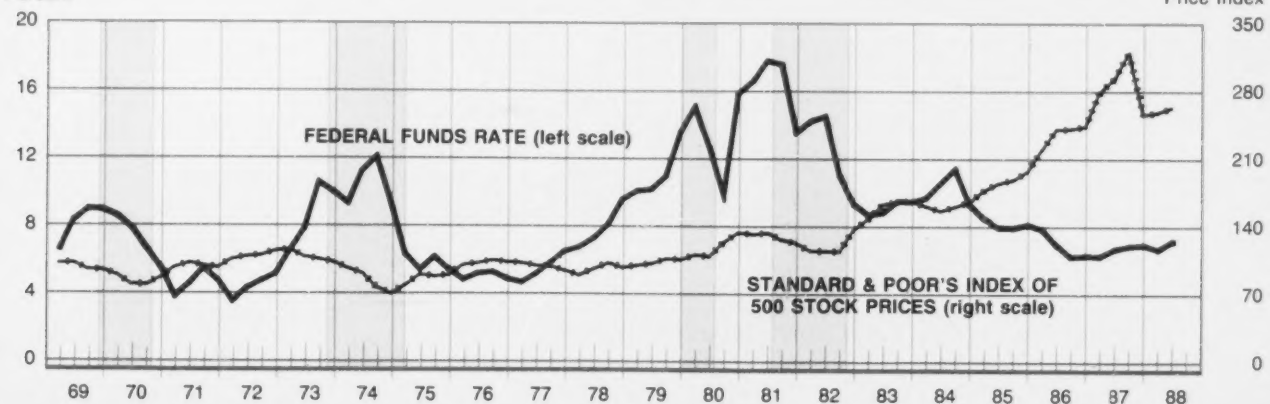
Percent Change

Percent Change



Percent

Price Index



Note: Shaded areas indicate recession periods as designated by NBER; percent changes are at annual rates.

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